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THE NAUTICAL ALMANAC AND ASTRONOMICAL EPHEMERIS, FOR THE YEAR 1785.

Published by ORDER of the

COMMISSIONERS OF LONGITUDE.

Jos: Banks

LONDON

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M DCC LXXX.

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EXTRACT from the Act of Parliament concerning the Longitude, made in the Fifth Year of the Reign of his preſent Majeſty.

WHEREAS the Publication of Nautical Almanacs conſtructed by proper Perſons, under the Direction of the ſaid Commiſſioners, would greatly contribute to make the ſaid Lunar Tables more generally uſeful; Be it further Enacted, by the Authority aforeſaid, That it ſhall and may be lawful to and for the ſaid Commiſſioners to cauſe ſuch Nautical Almanacs, or other uſeful Tables, to be conſtructed, and to print, publiſh, and vend, or cauſe to be printed, publiſhed, and vended, any Nautical Almanac or Almanacs, or other uſeful Table or Tables, which they, or the major Part of them, ſhall, from time to time, judge neceſſary and uſeful, in order to facilitate the Method of diſcovering the Longitude at Sea; any Law, Statute, excluſive Privilege, private Charter, or other Cuſtom, to the contrary thereof notwithſtanding.

And be it Enacted, by the Authority aforeſaid, That no Perſon or Perſons ſhall print, publiſh, or vend, or cauſe to be printed, publiſhed, or vended, any Nautical Almanac or Almanacs, or other Table or Tables conſtructed under the Direction of the ſaid Commiſſioners, without being firſt licenſed by the ſaid Commiſſioners, or the major Part of them: And if any Perſon or Perſons not ſo licenſed, or not being authorized by the Perſon or Perſons ſo licenſed by the ſaid Commiſſioners, ſhall print, publiſh, or vend, or cauſe to be printed, publiſhed, or vended, any ſuch Nautical Almanac or Almanacs, or other Table or Tables, every ſuch Perſon or Perſons ſhall, for every Copy of ſuch Nautical Almanac or Table ſo printed, publiſhed, or vended, forfeit and pay the Sum of Twenty Pounds; to be recovered by Action of Debt, Bill, Plaint, or Information, in any of his Majeſty's Courts of Record at *Weſtminſter*; and that One Moiety of ſuch Penalty and Forfeiture ſhall be to his Majeſty, his Heirs and Succeſſors, and the other Moiety to him or them that ſhall proſecute, inform, or ſue for the ſame.

EXTRACT of an Act for the Repeal of all former Acts concerning the Longitude at Sea, except ſo much thereof as relates to the Appointment and Authority of the Commiſſioners thereby conſtituted, and alſo ſuch Clauſes as relate to the conſtructing, printing, publiſhing, vending, and licenſing of Nautical Almanacs and other uſeful Tables; and for the more effectual Encouragement and Reward of ſuch Perſon and Perſons as ſhall diſcover a Method for finding the ſame, or ſhall make uſeful Diſcoveries in Navigation; and for the better making Experiments relating thereto: Made in the Fourteenth Year of the Reign of his preſent Majeſty.

BE it Enacted by the KING's Moſt Excellent Majeſty, by and with the Advice and Conſent of the Lords Spiritual and Temporal, and Commons, in this preſent Parliament aſſembled, and by the Authority of the ſame, That each and every of the ſaid recited Acts (ſave and except ſuch Clauſe and Clauſes in each or any of them as relate to the Appointment or Authority of all or any of the Commiſſioners thereby reſpectively conſtituted, and alſo ſuch Clauſe and Clauſes as relate to the conſtructing, printing, publiſhing, vending, and licenſing of Nautical Almanacs, and other uſeful Tables) ſhall, from and after the Twenty-fourth Day of *June* One thouſand Seven hundred and Seventy-four, be, and are hereby repealed.

And, for a due and ſufficient Encouragement to any Perſon or Perſons who ſhall diſcover any Method or Methods for finding the ſaid Longitude, Be it Enacted by the Authority aforeſaid, That the Firſt Author or Authors, Diſcoverer or Diſcoverers, of each and every ſuch Method or Methods, his or their Executors, Adminiſtrators, or Aſſigns, ſhall be intitled to and have the Rewards or Sums of Money herein-after mentioned; that is to ſay, In caſe the Method propoſed ſhall be, by means of a Time-keeper, the Principles whereof have not hitherto been made public, to the Reward or Sum of Five thouſand

Pounds, if ſuch Method determines the ſaid Longitude to One Degree of a great Circle, or Sixty geographical Miles; to the Reward or Sum of Seven thouſand Five hundred Pounds, if it determines the ſame to Two Thirds of that Diſtance; and to the Reward or Sum of Ten thouſand Pounds, if it determines the ſame to One Half of the ſaid Diſtance: Which reſpective Rewards ſhall be due and paid when ſuch Method ſhall have been ſufficiently tried by the following Experiments and Voyages to be made and performed by ſuch Perſons, and under ſuch Reſtrictions, as the ſaid Commiſſioners for the Diſcovery of Longitude at Sea reſpectively conſtituted by the above-recited Acts, or the major Part of them, ſhall think fit to appoint and direct; (that is to ſay), When and ſo ſoon as Two or more Time-keepers of the ſame Conſtruction ſhall have been tried at the ſame Time, for the Space of Twelve Months, at the Royal Obſervatory at *Greenwich*, then in Two Voyages round the Iſland of *Great Britain*, in contrary Directions, and in ſuch other Voyages to different Climates as the ſaid Commiſſioners ſhall think fit to direct and appoint; and after their Return from ſuch Voyages, or any of them, for ſuch longer Time, at the ſaid Obſervatory, not exceeding Twelve Months, as the ſaid Commiſſioners ſhall judge neceſſary; and alſo when and ſo ſoon as the ſaid Commiſſioners, or Two Thirds of them at the leaſt, ſhall, after ſuch Experiments and Voyages have been made and performed as aforeſaid, have declared and determined that ſuch Method is generally practicable and uſeful, and ſufficiently exact to determine the Longitude at Sea within the Degrees or Limits aforeſaid, in all Voyages for the Space of Six Months, (Impediments from cloudy and hazy Weather excepted); and alſo when and ſo ſoon as the Principles and Practice of ſuch Method are fully diſcovered and explained to the Satisfaction of the ſaid Commiſſioners, or Two Thirds of them at leaſt; and ſuch Author or Authors, Diſcoverer or Diſcoverers, ſhall have delivered up and aſſigned over to the ſaid Commiſſioners, for the Uſe of the Public, the abſolute Property of ſuch Time-keepers as ſhall have been

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tried by ſuch Experiments and Voyages as aforeſaid, together with all Plates, Deſcriptions, Theories, and Explanations belonging or relating to the ſame, and which ſhall contain the Whole of ſuch Diſcovery of the Longitude; and in caſe the Method propoſed ſhall be by means of improved Solar and Lunar Tables, then and in ſuch Caſe the Author or Authors of ſuch improved Solar and Lunar Tables, their Executors, Adminiſtrators, or Aſſigns, ſhall be intitled to and have the Reward or Sum of Five thouſand Pounds, if ſuch Solar and Lunar Tables ſhall prove ſufficiently exact to ſhew the Diſtance of the Moon from the Sun and Stars in the Heavens within Fifteen Seconds of a Degree, anſwering to about Seven Minutes of Longitude, after making an Allowance of Half a Degree for the Errors of Obſervation; and when it ſhall appear to the Satisfaction of the ſaid Commiſſioners, or Two Thirds of them at leaſt, that ſuch Tables are conſtructed intirely upon the Principles of Gravitation laid down by Sir *Iſaac Newton* (except with reſpect to thoſe Elements which muſt neceſſarily be taken from aſtronomical Obſervations), and alſo when the Truth of ſuch Tables ſhall have been further confirmed and proved by Compariſon with a Series of aſtronomical Obſervations made during a Period of Eighteen Years and a Half, which is deemed the Period of the Irregularities of the Lunar Motions; which Reward ſhall be due and paid, when the ſaid Commiſſioners, or Two Thirds of them at leaſt, ſhall have declared and determined, that ſuch Tables are ſufficiently exact to ſhew the Diſtance of the Moon from the Sun and Stars in the Heavens, within the Limits above-mentioned; and alſo when the Author or Authors of ſuch improved Solar and Lunar Tables, his or their Executors, Adminiſtrators, or Aſſigns, ſhall have delivered up and aſſigned over to the ſaid Commiſſioners, for the Uſe of the Public, the abſolute Right and Property to and in the ſame, together with the Theory relating thereunto; and in caſe any other Method ſhall be propoſed for finding the Longitude at Sea beſides thoſe before-mentioned, that then and in ſuch Caſe the Firſt Author or Authors, Diſcoverer or Diſcoverers, of

any

any ſuch Method, his or their Executors, Adminiſtrators, or Aſſigns, ſhall be intitled to and have the Reward or Sum of Five thouſand Pounds, if it ſhall determine the ſaid Longitude within One Degree of a great Circle or Sixty geographical Miles; to the Reward or Sum of Seven thouſand Five hundred Pounds, if it ſhall determine the ſame to Two Thirds of that Diſtance; and to the Reward or Sum of Ten thouſand Pounds, if it ſhall determine the ſame to One Half of the ſame Diſtance; which reſpective Rewards ſhall be due and paid, ſo ſoon as the ſaid Commiſſioners, or Two Thirds of them at leaſt, ſhall, after proper Trial have been made by their Appointment and Direction, have determined that ſuch Method ſhall be generally practicable and uſeful for finding the Longitude at Sea within the reſpective Limits above-mentioned.

And be it further Enacted, by the Authority aforeſaid, That when and ſo ſoon as any ſuch Method or Methods, for the Diſcovery of the ſaid Longitude, ſhall be tried, as before-mentioned, and found practicable and uſeful at Sea, and ſufficiently exact to determine the Longitude within any of the Degrees or Limits aforeſaid, the ſaid Commiſſioners, or Two Thirds of them, ſhall certify the ſame, under their Hands and Seals, to the Commiſſioners of the Navy for the Time being, together with the Name or Names of the Perſon or Perſons who ſhall be the Author or Authors of ſuch Method or Methods; and upon the Receipt of ſuch Certificate, the ſaid Commiſſioners of the Navy are hereby authorized and required to make out a Bill or Bills upon the Treaſurer of the Navy for the reſpective Sum or Sums of Money to which the Author or Authors of ſuch Propoſal, his or their Executors, Adminiſtrators, or Aſſigns, ſhall be intitled by virtue of this Act; which Sum or Sums the ſaid Treaſurer is hereby required to pay to the ſaid Author or Authors, their Executors, Adminiſtrators, or Aſſigns accordingly, out of any Money that may be in his Hands unapplied to the Uſe of the Navy, according to the true Intent and Meaning of this Act.

And

And be it further Enacted, by the Authority aforeſaid, That the ſaid Commiſſioners for the Diſcovery of Longitude at Sea, or any Five or more of them, ſhall have full Power and Authority to hear and receive any Propoſal or Propoſals that ſhall be made to them for diſcovering the ſaid Longitude, or for making any other uſeful Improvement in Navigation; and in caſe the ſaid Commiſſioners, or any Five or more of them, ſhall be ſo far ſatisfied of the Probability of any ſuch Diſcovery or Improvement as to think it proper to cauſe Experiments to be made thereof, they ſhall certify the ſame, together with the Names of the Author or Authors of ſuch Propoſal or Propoſals, under their Hands and Seals, to the Commiſſioners of the Navy, who are hereby authorized and required to make out a Bill or Bills upon the Treaſurer of the Navy for any Sum or Sums of Money as the ſaid Commiſſioners for the Diſcovery of Longitude at Sea, or any Five or more of them, ſhall think neceſſary for making ſuch Experiments; which Sum or Sums the Treaſurer of the Navy is hereby required to pay immediately to ſuch Perſon or Perſons as ſhall be appointed by the ſaid Commiſſioners to make thoſe Experiments out of any Money which ſhall be in his the ſaid Treaſurer's Hands unapplied as aforeſaid.

And be it further Enacted, by the Authority aforeſaid, That if any Perſon or Perſons ſhall make any Diſcovery for finding the Longitude at Sea, which, though not of ſo great Uſe as to be intitled to any of the great Rewards above ſpecified, ſhall nevertheleſs be adjudged by the ſaid Commiſſioners for the Diſcovery of Longitude at Sea, or the major Part of them, to be of conſiderable Uſe to the Public, or ſhall make any other Diſcovery or Diſcoveries, Improvement or Improvements, uſeful to Navigation; then, and in ſuch Caſe, ſuch Perſon or Perſons, his or their Executors, Adminiſtrators, or Aſſigns, ſhall, from time to time, have and receive ſuch leſs Reward or Sum or Sums of Money as the ſaid Commiſſioners, or the major Part of them, ſhall think reaſonable; and certify accordingly, under their Hands and Seals, to the Commiſſioners of the Navy,

Navy, who are hereby authorized and required to make out a Bill or Bills upon the Treaſurer of the Navy for any ſuch Sum or Sums of Money, which the ſaid Treaſurer is hereby authorized and required to pay immediately to ſuch Perſon or Perſons, his or their Executors, Adminiſtrators, or Aſſigns, out of any Money that ſhall be in his the ſaid Treaſurer's Hands unapplied as aforeſaid.

Provided alſo, and it is hereby further Enacted, That in caſe any Perſon or Perſons who ſhall and may have received any Sum or Sums of Money, by virtue of this Act, as a Reward for any Method of diſcovering the Longitude at Sea, ſhall afterwards become intitled to any of the greater Rewards appointed by this Act, for or on account of the ſame Method; that then, and in ſuch Caſe, ſuch Sum or Sums of Money as they ſhall or may have received as aforeſaid ſhall be conſidered as Part of ſuch greater Reward, and deducted therefrom accordingly; and that no Perſon ſhall receive more in the Whole for any One Method for diſcovering the Longitude at Sea than the greateſt Reward appointed for ſuch Method by this Act.

By the COMMISSIONERS appointed by Acts of Parliament for the Diſcovery of the Longitude at Sea; and for examining, trying, and judging of all Propoſals, Experiments, and Improvements relating to the ſame.

WHEREAS we have employed proper Perſons to compute Nautical Almanacs and Aſtronomical Ephemerides for the Years 1781, 1782, 1783, 1784, 1785, and 1786, which will greatly contribute to make the Lunar Tables conſtructed by the late Profeſſor MAYER of *Gottingen* (which you have already printed with our Authority) more generally uſeful; and whereas we think fit to employ you to print the ſaid Nautical Almanacs and Aſtronomical Ephemerides: We do therefore, in purſuance of the Power veſted in us by Act of Parliament, hereby licenſe, authorize, and impower you to cauſe the ſame to be printed, together with ſuch other uſeful Tables for facilitating the Method of diſcovering the Longitude at Sea, as ſhall have been conſtructed under our Direction, and will be delivered to you by the Reverend Dr. NEVIL MASKELYNE, his Majeſty's Aſtronomer Royal at *Greenwich*; and for ſo doing this ſhall be your ſufficient Warrant. Given under our Hands and Seals the 6th Day of *March* 1779.

SANDWICH (L.S.)
FL. NORTON (L.S.)
T. FRANKLAND (L.S.)
C. HARDY (L.S.)
T. PYE (L.S.)
G. B. RODNEY (L.S.)
JOS BANKS (L.S.)
N. MASKELYNE (L.S.)
T. HORNSBY (L.S.)
J. SMITH (L.S.)
E. WARING (L.S.)
A. SHEPHERD (L.S.)
J. MARRIOTT (L.S.)
GREY COOPER (L.S.)
J. ROBINSON (L.S.)
P. STEPHENS (L.S.)
J. SMITH (L.S.)

To Mr. WILLIAM RICHARDSON, Printer in *Saliſbury-court, Fleet-ſtreet.*

By Command of the Commiſſioners,
JOHN IBBETSON, Secretary.

By the COMMISSIONERS appointed by Acts of Parliament for the Diſcovery of the Longitude at Sea; and for examining, trying, and judging of all Propoſals, Experiments, and Improvements relating to the ſame.

WHEREAS we think fit to employ you to publiſh and vend, and to cauſe to be publiſhed and vended, the Nautical Almanacs and Aſtronomical Ephemerides for the Years 1781, 1782, 1783, 1784, 1785, and 1786, together with other uſeful Tables (conſtructed under our Direction) for facilitating the Method of diſcovering the Longitude at Sea, which will be printed by Mr. WILLIAM RICHARDSON of *Saliſbury-court, Fleet-ſtreet*: We do therefore, in purſuance of the Power veſted in us by Act of Parliament, hereby licenſe, authorize, and impower you to publiſh and vend, and to cauſe to be publiſhed and vended, the ſaid Nautical Almanacs and Aſtronomical Ephemerides, together with other uſeful Tables abovementioned. For which this ſhall be your ſufficient Warrant. Given under our Hands and Seals this 6th Day of *March* 1779.

SANDWICH (L.S.)
FL. NORTON (L.S.)
T. FRANKLAND (L.S.)
C. HARDY (L.S.)
T. PYE (L.S.)
G. B. RODNEY (L.S.)
JOS. BANKS (L.S.)
N. MASKELYNE (L.S.)
T. HORNSBY (L.S.)
J. SMITH (L.S.)
E. WARING (L.S.)
A. SHEPHERD (L.S.)
J. MARRIOTT (L.S.)
GREY COOPER (L.S.)
J. ROBINSON (L.S.)
PH. STEPHENS (L.S.)
J. SMITH (L.S.)

To Mr. JOHN NOURSE,
Bookſeller in the *Strand*.

By Command of the Commiſſioners,
JOHN IBBETSON, Secretary.

☞ A Licence was alſo granted at the ſame Time, to the like Effect, to Meſſ. JOHN MOUNT and THOMAS PAGE, Stationers on *Tower-hill*.

PRE-

PREFACE.

THE Commiſſioners of Longitude, in purſuance of the Powers veſted in them by Act of Parliament, preſent the Public with the NAUTICAL ALMANAC and ASTRONOMICAL EPHEMERIS for the Year 1785, being the Nineteenth Impreſſion, to be continued annually; a Work which muſt greatly contribute to the Improvement of Aſtronomy, Geography, and Navigation. This EPHEMERIS contains every Thing eſſential to general Uſe that is to be found in any Ephemeris hitherto publiſhed, with many other uſeful and intereſting Particulars never yet offered to the Public in any Work of this Kind. The Tables of the Moon had been brought by the late Profeſſor MAYER of Gottingen to a ſufficient Exactneſs to determine the Longitude at Sea, within a Degree, as appeared by the Trials of ſeveral Perſons who made Uſe of them. The Difficulty and Length of the neceſſary Calculations ſeemed the only Obſtacles to hinder them from becoming of general Uſe: To remove which this EPHEMERIS was made; the Mariner being hereby relieved from the Neceſſity of calculating the Moon's Place from the Tables, and afterwards computing the Diſtance to Seconds by Logarithms, which are the principal and only very delicate Part of the Calculus; ſo that the finding the Longitude by the Help of the EPHEMERIS is now in a Manner reduced to the Computation of the Time, an Ope-

ration equal to that of an Azimuth, and the Correction of the Diſtance on account of Refraction and Parallax, which is alſo rendered very eaſy by either of the Two Methods invented by Mr. LYONS and Mr. DUNTHORNE, and publiſhed among the Tables requiſite to be uſed with the EPHEMERIS; or by either of the Two Methods annexed to the EPHEMERIS of 1772, being both Improvements of the Method which I formerly publiſhed in the BRITISH MARINER'S GUIDE and PHILOSOPHICAL TRANSACTIONS, the Firſt by myſelf, and the Second by Mr. GEORGE WITCHELL; but ſtill more ſo by the GENERAL TABLES for correcting the apparent Diſtance of the Moon and a Star or the Sun from the Effects of Refraction and Parallax, computed at great Expence by Order of the Commiſſioners of Longitude, and publiſhed under the Care of Dr. SHEPHERD, Plumian Profeſſor of Aſtronomy and experimental Philoſophy at CAMBRIDGE, in 1772.

By Deſire of the Commiſſioners of Longitude, I drew up the Explanation and Uſe of the Articles contained in the EPHEMERIS, and the Inſtructions, with Examples, for finding the Longitude at Sea by the Help of the ſame. I alſo collected and calculated the Sixteen Firſt Pages of Tables requiſite to be uſed with the EPHEMERIS, and computed the Table of proportional Logarithms, which ſeemed to me abſolutely neceſſary to clear this Method of any remaining Difficulty; and added Explanations of all the Tables, and a Correction, p. 49 and 50, which may be applied by the Curious to the Effect of Refraction on the Moon's Diſtance from a Star, found by Mr. LYONS, or any other Method, on account of the Barometer and Thermometer.

All

PREFACE.

All the Calculations of the EPHEMERIS relating to the Sun were made from Mr. MAYER's laſt manuſcript Tables, received by the Board of Longitude after his Deceaſe, which have been printed under my Inſpection, and publiſhed in 1770; but the Calculations of the Moon were made in this EPHEMERIS, for the ninth time, from new Tables, improved from MAYER's Tables, compoſed by Mr. CHARLES MASON, under my Direction, from Calculations made by Order of the Board of Longitude, upon the Series of lunar Obſervations made by the late Dr. BRADLEY, and publiſhed in the Nautical Almanac of 1774. In theſe new Tables, the Epoch of the Moon's mean Longitude is 1″ leſs, that of the Apogee is 56″ leſs, and that of the Aſcending Node 45″ more, than in MAYER's printed Tables, and the Equations are calculated to Tenths of a Second. Moreover, One new Equation is introduced, whoſe Argument is the mean Diſtance of the Moon from the Sun's Apogee, and Maximum 16″,4. Theſe new Tables, when compared with the above-mentioned Series of Obſervations, a proper Allowance being made for the unavoidable Error of Obſervation, ſeem to give always the Moon's Longitude in the Heavens correctly within 45 Seconds of a Degree; which greateſt Error, added to a poſſible Error of One Minute in taking the Moon's Diſtance from the Sun or a Star at Sea, will at a Medium only produce an Error of 50 Minutes of Longitude.

The Calculations of the Planets, and of the Eclipſes of Jupiter's Satellites were calculated from the Tables of Mr. WARGENTIN, annexed to M. DE LA LANDE's Aſtronomy, excepting the Eclipſes

Eclipſes of Jupiter's Second Satellite, which were inſerted in this EPHEMERIS for the fifth time from new Tables tranſmitted to me from their learned Author Mr. WARGENTIN, Secretary to the Royal Academy of Sciences at STOCKHOLM, and publiſhed at the End of the Nautical Almanac of 1779.

All the Articles of the EPHEMERIS were computed by Two ſeparate Perſons, and examined by a Third, except the Moon's Longitude, Latitude, Right Aſcenſion, Declination, Semidiameter, and Parallax, which, for Noon, were computed by One Perſon, and for Midnight by another, and the Truth of theſe Calculations aſcertained by means of Differences, which, for the Moon's Longitude, were carried as far as the Fourth Order.

NEVIL MASKELYNE,
ASTRONOMER ROYAL.

GREENWICH,
April 13th,
1780.

EXPLA-

Explanation of the Characters uſed in the Ephemeris.

The PLANETS, &c.

☉ The Sun.
☾ The Moon.
☿ Mercury.
♀ Venus.
♂ Mars.
♃ Jupiter
♄ Saturn.
☊ The Moon's, or any other Planet's Aſcending Node.
☋ The Deſcending Node.
☌ Conjunction, or Planets ſituated in the ſame Longitude.
☍ Oppoſition, or Planets ſituated in oppoſite Longitudes, or differing 6 Signs from each other.

Signs of the Zodiac.

S.		S.	
0.	♈ Aries.	6.	♎ Libra.
1.	♉ Taurus.	7.	♏ Scorpio.
2.	♊ Gemini.	8.	♐ Sagittarius.
3.	♋ Cancer.	9.	♑ Capricornus.
4.	♌ Leo.	10.	♒ Aquarius.
5.	♍ Virgo.	11.	♓ Piſces.

ECLIPSES for the Year 1785.

February 9. ☉ eclipſed, inviſible: ☌ at $0^h. 25\frac{1}{2}'$, in $10^s. 21°. 16'$. ☽'s Lat. $0'. 28''$ North. ☉ will be centrally eclipſed on the Meridian at $0^h. 27'$, in Long. $6°. 47'$ Weſt. Lat. $13°. 57'$ South.

Auguſt 4. ☉ eclipſed, inviſible: ☌ at $13^h. 31\frac{1}{2}'$, in $4^s. 12°. 55'$. ☽'s Lat. $0°. 4\frac{1}{2}'$ South. ☉ will be centrally eclipſed on the Merid. at $13^h. 34\frac{1}{2}$, in Long. $156°. 26\frac{3}{4}'$ Eaſt, and Lat. $12°. 1'$ North.

OBLIQUITY, &c.

1785.	Obliquity of the Ecliptic.	Equat. of Equin. Points.
	D. M. S.	S.
Jan. 1.	23. 28. 9,4	+10,8
Apr. 1.	23. 28. 8,8	+11,9
July 1.	23. 28. 8,1	+13,0
Oct. 1.	23. 28. 7,3	+14,0
Dec. 31.	23. 28. 6,6	+15,0

Days of the Month.	Days of the Week.	Sundays, Holidays, &c.
1	Sa.	*Circumcision.*
2	*Su.*	*Sunday after Circumcision.*
3	M.	
4	Tu.	
5	W.	
6	Th.	*Epiphany.*
7	F.	
8	Sa.	Lucian.
9	*Su.*	*1st Sunday after Epiphany.*
10	M.	
11	Tu.	
12	W.	
13	Th.	Hil. Camb. Term begins.
14	F.	Oxford Term begins.
15	Sa.	
16	*Su.*	*2d Sunday after Epiphany.*
17	M.	
18	Tu.	♀ *Charlotte's Birth-day*
19	W.	[*kept.* Prisca.
20	Th.	Fabian. In 8 d. of S. Hil.
21	F.	Agnes. [1 ret.
22	Sa.	Vincent.
23	*Su.*	*Septuagesima Sunday.*
24	M.	Hil. Term begins.
25	Tu.	*Conversion of St. Paul.*
26	W.	
27	Th.	*Pr. Aug. Fred. born.* In 15
28	F.	[days of S. Hil. 2 ret.
29	Sa.	
30	*Su.*	*Sexagesima-Sun. K. Ch.* I.
31	M.	[*martyr.*

Phases of the Moon.

	D.	H.	M.
Last Quarter —	3.	7.	0
New Moon —	10.	13.	17
First Quarter —	17.	5.	12
Full Moon —	24.	20.	40

Other Phenomena.

D.

1. ☾ ☌ ♑ Im. $9^h.0'$. $*3'\frac{1}{2}$ S. of ☽'s cent. Em. $9^h.50'\frac{1}{2}$. $*2'\frac{1}{2}$ S.
2. ☿ ☌ ♒ diff. Lat. 45′.
3. ☿ ☌ ♒ diff. Lat. 49′.
6. ☾ ☍ ♏ $22^h.1'$.
7. ☾ ☐ ♏ $6^h.40'$.
☾ ☌ ♏ $10^h.8'$.
☾ ☍ ♏ $13^h.7'$.
8. ☿ ☌ ♒ diff. Lat. 24′.
☾ 43 Ophiu. $7^h.11'$.
11. ☾ ☿ $20^h.44'$.
13. ♂ ☌ Ophiu. diff. Lat. 42′.
16. ☿ Stationary.
☿ ☌ ♒ diff. Lat. 41′.
☾ ☍ ♓ $21^h.43'$.
19. ☿ ☿ diff. Lat. 14′.
☉ enters ♒ at $1^h.22'$.
☾ ☌ Pleiadum $8^h.44'$.
21. ☾ ☌ ♂ $2^h.39'$.
23. ☿ ☌ ♒ diff. Lat. 5′.
☾ ☌ ♊ $14^h.32'$.
24. ☾ ☌ ♋ $20^h.18'$.
26. ☾ ☍ ♌ $9^h.42'$.
☾ ☌ ♌ $14^h.46'$.
27. ☾ ☌ ♌ $4^h.2'$.
28. ☾ ☌ ♌ $17^h.58'$.

Days of the Month.	Days of the Week.	Sun's Longitude.	Sun's Right Asc. in Time.	Sun's Declin. South.	Equat. of Time. Add.	Diff.
		S. D. M. S.	H. M. S.	D. M. S.	M. S.	S.
1	Sa.	9. 11. 35. 47	18.50.26,5	22. 57. 45	4. 20,6	28,0
2	*Su.*	9. 12. 36. 58	18.54.51,2	22. 52. 11	4. 48,6	27,6
3	M.	9. 13. 38. 9	18.59.15,2	22. 46. 11	5. 16,2	27,2
4	Tu.	9. 14. 39. 20	19. 3.39,1	22. 39. 44	5. 43,4	26,8
5	W.	9. 15. 40. 31	19. 8. 2,5	22. 32. 50	6. 10,2	26,3
6	Th.	9. 16. 41. 43	19.12.25,5	22. 25. 28	6. 36,5	25,9
7	F.	9. 17. 42. 54	19.16.48,0	22. 17. 40	7. 2,4	25,4
8	Sa.	9. 18. 44. 5	19.21.10,0	22. 9. 28	7. 27,8	24,8
9	*Su.*	9. 19. 45. 16	19.25.31,4	22. 0. 47	7. 52,6	24,2
10	M.	9. 20. 46. 27	19.29.52,3	21. 51. 41	8. 16,8	23,7
11	Tu.	9. 21. 47. 37	19.34.12,6	21. 42. 11	8. 40,5	23,1
12	W.	9. 22. 48. 47	19.38.32,3	21. 32. 14	9. 3,6	22,4
13	Th.	9. 23. 49. 56	19.42.51,3	21. 21. 51	9. 26,0	21,7
14	F.	9. 24. 51. 4	19.47. 9,7	21. 11. 6	9. 47,7	21,0
15	Sa.	9. 25. 52. 12	19.51.27,3	20. 59. 55	10. 8,7	20,3
16	*Su.*	9. 26. 53. 18	19.55.44,2	20. 48. 21	10. 29,0	19,6
17	M.	9. 27. 54. 24	20. 0. 0,4	20. 36. 23	10. 48,6	18,8
18	Tu.	9. 28. 55. 29	20. 4.15,8	20. 24. 0	11. 7,4	18,1
19	W.	9. 29. 56. 32	20. 8.30,5	20. 11. 17	11. 25,5	17,2
20	Th.	10. 0. 57. 34	20.12.44,3	19. 58. 10	11. 42,7	16,5
21	F.	10. 1. 58. 35	20.16.57,5	19. 44. 41	11. 59,2	15,7
22	Sa.	10. 2. 59. 35	20.21. 9,7	19. 30. 50	12. 14,9	14,9
23	*Su.*	10. 4. 0. 34	20.25.21,2	19. 16. 37	12. 29,8	14,1
24	M.	10. 5. 1. 32	20.29.31,8	19. 2. 3	12. 43,9	13,2
25	Tu.	10. 6. 2. 29	20.33.41,7	18. 47. 8	12. 57,1	12,4
26	W.	10. 7. 3. 24	20.37.50,7	18. 31. 54	13. 9,5	11,6
27	Th.	10. 8. 4. 19	20.41.58,9	18. 16. 18	13. 21,1	10,8
28	F.	10. 9. 5. 13	20.46. 6,3	18. 0. 22	13. 31,9	10,0
29	Sa.	10. 10. 6. 6	20.50.13,0	17. 44. 10	13. 41,9	9,3
30	*Su.*	10. 11. 6. 57	20.54.18,8	17. 27. 35	13. 51,2	8,4
31	M.	10. 12. 7. 48	20.58.23,8	17. 10. 45	13. 59,6	

Days.	Semidiameter of the Sun.	Time of D° passing the Meridian.	Hourly Motion of the Sun.	Logarithm of the Sun's Distance.	Place of the Moon's Node.
	M. S.	M. S.	M. S.		S. D. M.
1	16. 19,2	1. 10,9	2. 32,9	9,992640	10. 23. 18
7	16. 19,1	1. 10,6	2. 32,8	9,992731	10. 22. 59
13	16. 18,8	1. 10,1	2. 32,8	9,992885	10. 22. 40
19	16. 18,2	1. 9,5	2. 32,6	9,993097	10. 22. 21
25	16. 17,4	1. 8,8	2. 32,3	9,993392	10. 22. 2

Eclipses of the Satellites of JUPITER.

I. Satellite. Emerſions.		II. Satellite. Emerſions.		III. Satellite.		
Days	H. M. S.	Days	H. M. S.	Days	H. M. S.	
1	23. 24. 49	1	3. 28. 7	1	2. 55. 44	I.
3	17. 52. 58	4	16. 44. 18	1	6* 2. 40	E.
5	12. 21. 5	8	6* 0. 29	8	6*55. 12	I.
7	6*49. 18	11	19. 16. 55	8	10. 1. 6	E.
9	1. 17. 29	15	8. 33. 21	15	10. 55. 7	I.
10	19. 45. 45	18	21. 50. 5	15	13. 59. 57	E.
12	14. 13. 58	22	11. 6. 50	22	14. 55. 54	I.
14	8. 42. 17	26	0. 23. 49	22	17. 59. 22	E.
16	3. 10. 36	29	13. 40. 56	29	18. 56. 37	I.
17	21. 38. 56			29	21. 59. 22	E.
19	16. 7. 19			IV. Satellite.		
21	10. 35. 44					
23	5. 4. 9			1	0, 19. 16	E.
24	23. 32. 40			17	14. 30. 57	I.
26	18. 1. 11			17	18. 26. 37	E.
28	12. 29. 45					
30	6. 58. 22					

Days.	Heliocentric Longitude.	Heliocentric Latitude.	Geocentric Longitude.	Geocentric Latitude.	Declination.	Passage over Merid.
	S. D. M.	D. M.	S. D. M.	D. M.	D. M.	H. M.
Gr. Elong. 8d, MERCURY. Int. ♂ 24d. 0h½.						
1	11. 21. 43	5. 41 S	9. 28. 36	1. 46 S	22. 12 S	1. 14
4	0. 6. 13	4. 28	10. 2. 51	1. 24	20. 56	1. 19
7	0. 22. 3	2. 50	10. 6. 36	0. 55	19. 32	1. 20
10	1. 9. 12	0. 48 S	10. 9. 36	0. 16 S	18. 8	1. 19
13	1. 27. 26	1. 25 N	10. 11. 27	0. 31 N	16. 52	1. 12
16	2. 16. 18	3. 34	10. 11. 47	1. 25	15. 55	1. 0
19	3. 5. 10	5. 19	10. 10. 24	2. 19	15. 26	0. 40
22	3. 23. 22	6. 29	10. 7. 31	3. 4	15. 27	0. 15
25	4. 10. 26	6. 58	10. 3. 50	3. 32	15. 53	23. 38
28	4. 26. 6	6. 53	10. 0. 18	3. 36	16. 35	23. 13
31	5. 10. 20	6. 22	9. 27. 41	3. 23	17. 20	22. 52
VENUS.						
1	0. 9. 24	3. 5 S	10. 17. 13	1. 48 S	17. 24 S	2. 31
7	0. 18. 58	2. 48	10. 24. 31	1. 41	14. 57	2. 33
13	0. 28. 33	2. 27	11. 1. 48	1. 32	12. 17	2. 34
19	1. 8. 9	2. 1	11. 9. 2	1. 18	9. 23	2. 36
25	1. 17. 46	1. 32	11. 16. 12	1. 2	6. 24	2. 37
MARS.						
1	7. 21. 37	0. 7 S	8. 10. 45	0. 5 S	22. 11 S	21. 46
7	7. 24. 42	0. 13	8. 15. 2	0. 9	22. 47	21. 38
13	7. 27. 50	0. 19	8. 19. 19	0. 13	23. 16	21. 31
19	8. 0. 59	0. 25	8. 23. 38	0. 17	23. 36	21. 24
25	8. 4. 10	0. 31	8. 27. 58	0. 22	23. 49	21. 18
JUPITER.						
1	11. 14. 30	1. 12 S	11. 5. 27	1. 5 S	10. 33 S	3. 40
7	11. 15. 10	1. 13	11. 6. 36	1. 5	10. 6	3. 18
13	11. 15. 44	1. 13	11. 7. 49	1. 4	9. 39	2. 57
19	11. 16. 16	1. 13	11. 9. 5	1. 4	9. 10	2. 36
25	11. 16. 48	1. 13	11. 10. 23	1. 3	8. 40	2. 15
SATURN. ♂ 15d. 13h½.						
1	9. 25. 59	0. 12 S	9. 24. 44	0. 11 S	21. 22 S	0. 56
7	9. 26. 10	0. 12	9. 25. 25	0. 11	21. 16	0. 33
13	9. 26. 21	0. 13	9. 26. 8	0. 12	21. 8	0. 10
19	9. 26. 32	0. 13	9. 26. 50	0. 12	21. 1	23. 44
25	9. 26. 43	0. 13	9. 27. 33	0. 13	20. 52	23. 21

Days of the Month.	Days of the Week.	Moon's Longitude at Noon.	Moon's Longitude at Midnight.	Moon's Latitude at Noon.	Moon's Latitude at Midn.
		S. D. M. S.	S. D. M. S.	D. M. S.	D. M. S.
1	Sa.	5. 16. 38. 14	5. 22. 32. 24	2. 11. 21 S	2. 39. 50 S
2	*Su.*	5. 28. 27. 41	6. 4. 24. 51	3. 6. 41	3. 31. 40
3	M.	6. 10. 24. 29	6. 16. 27. 15	3. 54. 31	4. 14. 56
4	Tu.	6. 22. 33. 45	6. 28. 44. 39	4. 32. 42	4. 47. 30
5	W.	7. 5. 0. 31	7. 11. 21. 49	4. 59. 7	5. 7. 13
6	Th.	7. 17. 49. 2	7. 24. 22. 30	5. 11. 35	5. 11. 59
7	F.	8. 1. 2. 27	8. 7. 48. 59	5. 8. 13	5. 0. 5
8	Sa.	8. 14. 42. 6	8. 21. 41. 33	4. 47. 32	4. 30. 30
9	*Su.*	8. 28. 47. 4	9. 5. 57. 56	4. 9. 6	3. 43. 30
10	M.	9. 13. 13. 35	9. 20. 33. 13	3. 13. 59	2. 41. 0
11	Tu.	9. 27. 55. 56	10. 5. 20. 41	2. 5. 3	1. 26. 48
12	W.	10. 12. 46. 34	10. 20. 12. 28	0. 46. 56 S	0. 6. 13 S
13	Th.	10. 27. 37. 33	11. 5. 0. 52	0. 34. 32 N	1. 14. 36 N
14	F.	11. 12. 21. 43	11. 19. 39. 33	1. 53. 14	2. 29. 42
15	Sa.	11. 26. 53. 44	0. 4. 4. 0	3. 3. 30	3. 34. 6
16	*Su.*	0. 11. 9. 58	0. 18. 11. 33	4. 1. 5	4. 24. 8
17	M.	0. 25. 8. 38	1. 2. 1. 10	4. 43. 2	4. 57. 39
18	Tu.	1. 8. 49. 12	1. 15. 32. 54	5. 7. 54	5. 13. 48
19	W.	1. 22. 12. 19	1. 28. 47. 34	5. 15. 24	5. 12. 48
20	Th.	2. 5. 18. 51	2. 11. 46. 26	5. 6. 10	4. 55. 42
21	F.	2. 18. 10. 24	2. 24. 30. 55	4. 41. 37	4. 24. 11
22	Sa.	3. 0. 48. 13	3. 7. 2. 31	4. 3. 41	3. 40. 26
23	*Su.*	3. 13. 13. 55	3. 19. 22. 40	3. 14. 44	2. 46. 56
24	M.	3. 25. 28. 52	4. 1. 32. 46	2. 17. 23	1. 46. 26
25	Tu.	4. 7. 34. 31	4. 13. 34. 18	1. 14. 28	0. 41. 48 N
26	W.	4. 19. 32. 23	4. 25. 28. 58	0. 8. 49 N	0. 24. 8 S
27	Th.	5. 1. 24. 21	5. 7. 18. 51	0. 56. 42 S	1. 28. 39
28	F.	5. 13. 12. 46	5. 19. 6. 31	1. 59. 37	2. 29. 13
29	Sa.	5. 25. 0. 29	6. 0. 55. 6	2. 57. 18	3. 23. 32
30	*Su.*	6. 6. 50. 49	6. 12. 48. 17	3. 47. 41	4. 9. 28
31	M.	6. 18. 47. 51	6. 24. 50. 13	4. 28. 40	4. 45. 3

Days of the Month.	Days of the Week.	☽'s Age.	☽'s Passage over Merid.	☽'s Right Ascen. at Noon.	☽'s Right Ascen. at Midn.	☽'s Declination at Noon.	☽'s Declination at Midn.
			H. M.	D. M.	D. M.	D. M.	D. M.
1	Sa.	21	16. 43	166. 51	172. 6	3. 16 N	0. 31 N
2	*Su.*	22	17. 22	177. 21	182. 38	2. 14 S	4. 59 S
3	M.	23	18. 3	188. 1	193. 30	7. 43	10. 24
4	Tu.	24	18. 46	199. 8	204. 57	13. 1	15. 31
5	W.	25	19. 35	210. 58	217. 14	17. 54	20. 7
6	Th.	26	20. 27	223. 47	230. 36	22. 8	23. 55
7	F.	27	21. 23	237. 44	245. 8	25. 25	26. 34
8	Sa.	28	22. 24	252. 47	260. 38	27. 21	27. 42
9	*Su.*	29	23. 28	268. 38	276. 41	27. 37	27. 3
10	M.	1	♂	284. 44	292. 41	26. 2	24. 33
11	Tu.	2	0. 29	300. 29	308. 5	22. 38	20. 22
12	W.	3	1. 27	315. 29	322. 39	17. 45	14. 52
13	Th.	4	2. 20	329. 37	336. 24	11. 46	8. 31
14	F.	5	3. 11	343. 1	349. 31	5. 11 S	1. 48 S
15	Sa.	6	3. 59	355. 56	2. 19	1. 34 N	4. 54 N
16	*Su.*	7	4. 48	8. 40	15. 4	8. 7	11. 13
17	M.	8	5. 37	21. 31	28. 3	14. 8	16. 50
18	Tu.	9	6. 28	34. 41	41. 26	19. 18	21. 30
19	W.	10	7. 21	48. 19	55. 18	23. 25	25. 0
20	Th.	11	8. 15	62. 22	69. 31	26. 14	27. 6
21	F.	12	9. 10	76. 40	83. 49	27. 37	27. 45
22	Sa.	13	10. 4	90. 54	97. 53	27. 32	26. 57
23	*Su.*	14	10. 56	104. 44	111. 25	26. 2	24. 49
24	M.	15	11. 45	117. 55	124. 13	23. 19	21. 34
25	Tu.	16	12. 30	130. 20	136. 15	19. 36	17. 26
26	W.	17	13. 12	142. 0	147. 37	15. 7	12. 40
27	Th.	18	13. 53	153. 6	158. 28	10. 6	7. 28
28	F.	19	14. 32	163. 46	169. 1	4. 46 N	2. 2 N
29	Sa.	20	15. 11	174. 15	179. 29	0. 44 S	3. 29 S
30	*Su.*	21	15. 51	184. 46	190. 8	6. 12	8. 53
31	M.	22	16 33	195. 36	201. 13	11. 30	14. 2

Days of the Month.	Days of the Week.	Semidr. ☽ at Noon.	Semidr. ☽ at Midnight.	Hor. Par. ☽ at Noon.	Hor. Par. ☽ at Midnight.	Proport. Logar. at Noon.	Proport. Logar. at Midn.
		M. S.	M. S.	M. S.	M. S.		
1	Sa.	14. 48	14. 49	54. 19	54. 23	5203	5198
2	*Su.*	14. 51	14. 53	54. 39	54. 38	5190	5178
3	M.	14. 56	15. 0	54. 50	55. 4	5162	5144
4	Tu.	15. 5	15. 10	55. 21	55. 41	5122	5095
5	W.	15. 16	15. 22	56. 2	56. 25	5068	5038
6	Th.	15. 29	15. 36	56. 50	57. 16	5006	4973
7	F.	15. 44	15. 51	57. 43	58. 10	4940	4906
8	Sa.	15. 58	16. 5	58. 37	59. 3	4872	4841
9	*Su.*	16. 12	16. 18	59. 27	59. 50	4811	4783
10	M.	16. 23	16. 28	60. 9	60. 25	4760	4741
11	Tu.	16. 31	16. 33	60. 37	60. 45	4727	4717
12	W.	16. 34	16. 34	60. 49	60. 49	4712	4712
13	Th.	16. 33	16. 31	60. 45	60. 37	4717	4727
14	F.	16. 28	16. 24	60. 27	60. 13	4739	4755
15	Sa.	16. 20	16. 15	59. 58	59. 40	4773	4795
16	*Su.*	16. 10	16. 5	59. 21	59. 1	4819	4843
17	M.	15. 59	15. 54	58. 40	58. 20	4869	4893
18	Tu.	15. 48	15. 43	58. 0	57. 40	4918	4943
19	W.	15. 38	15. 32	57. 21	57. 2	4967	4991
20	Th.	15. 27	15. 23	56. 44	56. 27	5014	5036
21	F.	15. 18	15. 14	56. 11	55. 56	5056	5076
22	Sa.	15. 11	15. 7	55. 42	55. 28	5094	5112
23	*Su.*	15. 3	15. 0	55. 16	55. 4	5128	5144
24	M.	14. 58	14. 55	54. 54	54. 44	5157	5170
25	Tu.	14. 53	14. 51	54. 36	54. 28	5181	5191
26	W.	14. 49	14. 47	54. 22	54. 17	5199	5206
27	Th.	14. 46	14. 46	54. 13	54. 11	5211	5214
28	F.	14. 46	14. 46	54. 10	54. 11	5215	5214
29	Sa.	14. 47	14. 48	54. 14	54. 18	5210	5205
30	*Su.*	14. 50	14. 52	54. 25	54. 33	5195	5185
31	M.	14. 55	14. 59	54. 45	54. 58	5169	5152

Distances of ☽'s Center from Sun, and from Stars east of her.

Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S	D. M. S.	D. M. S.	D. M. S.	D. M. S.
1	Antares.	79. 59. 13	78. 30. 31	77. 1. 47	75. 33. 1	74. 4. 12	72. 35. 22	71. 6. 26	69. 37. 26
2		68. 8. 22	66. 39. 12	65. 9. 55	63. 40. 30	62. 10. 58	60. 41. 19	59. 11. 30	57. 41. 32
3		56. 11. 24	54. 41. 5	53. 10. 35	51. 39. 53	50. 9. 0			
1	The Sun	114. 56. 23	113. 35. 31	112. 14. 37	110. 53. 40	109. 32. 40	108. 11. 37	106. 50. 30	105. 29. 18
2		104. 8. 1	102. 46. 37	101. 25. 7	100. 3. 29	98. 41. 43	97. 19. 49	95. 57. 47	94. 35. 36
3		93. 13. 14	91. 50. 41	90. 27. 57	89. 5. 1	87. 41. 53	86. 18. 33	84. 54. 58	83. 31. 9
4		82. 7. 6	80. 42. 47	79. 18. 12	77. 53. 20	76. 28. 11	75. 2. 44	73. 36. 59	72. 10. 56
5		70. 44. 34	69. 17. 52	67. 50. 50	66. 23. 28	64. 55. 45	63. 27. 40	61. 59. 13	60. 30. 23
6		59. 1. 11	57. 31. 36	56. 1. 38	54. 31. 16	53. 0. 31	51. 29. 22	49. 57. 48	48. 25. 50
7		46. 53. 28	45. 20. 41	43. 47. 29	42. 13. 52	40. 39. 51			
12	♈ Arietis.	82. 8. 45	80. 17. 14	78. 25. 43	76. 34. 13	74. 42. 45	72. 51. 21	71. 0. 2	69. 8. 49
13		67. 17. 42	65. 26. 43	63. 35. 53	61. 45. 12	59. 54. 41	58. 4. 21	56. 14. 14	54. 24. 20
14		52. 34. 40	50. 45. 14	48. 56. 4	47. 7. 10	45. 18. 33	43. 30. 14	41. 42. 14	39. 54. 33
15		38. 7. 11							
15	Aldebaran.	70. 20. 0	68. 33. 59	66. 48. 18	65. 2. 58	63. 18. 0	61. 33. 23	59. 49. 8	58. 5. 16
16		56. 21. 48	54. 38. 43	52. 56. 3	51. 13. 49	49. 32. 0	47. 50. 37	46. 9. 43	44. 29. 20
17		42. 49. 27	41. 10. 6	39. 31. 20	37. 53. 11	36. 15. 39	34. 38. 43	33. 2. 37	31. 27. 21
18		29. 52. 55	28. 19. 33	26. 47. 9	25. 15. 58	23. 45. 54			

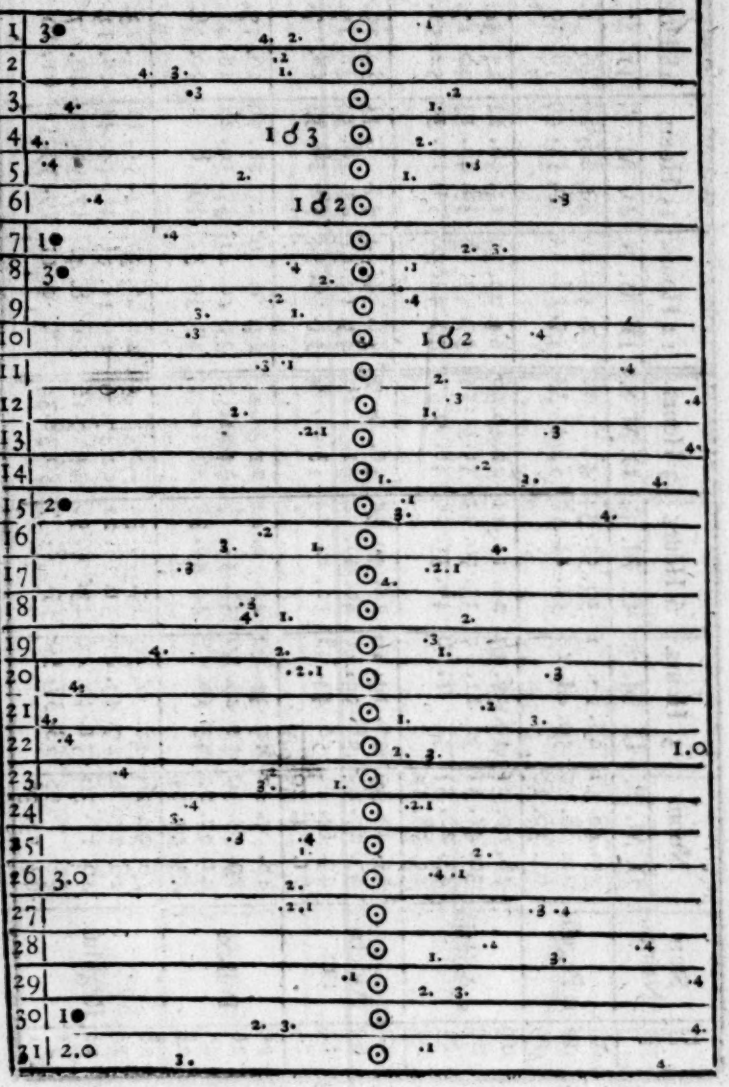
Days.	Stars Names.	Noon. D. M. S.	3 Hours. D. M. S.	6 Hours. D. M. S.	9 Hours D. M. S.	12 Hours. D. M. S.	15 Hours. D. M. S.	18 Hours. D. M. S.	21 Hours. D. M. S.
☊ 18						64. 20. 26	62. 40. 54	61. 1. 38	59.22.39
19	Pollux.	57. 43. 56	56. 5. 29	54. 27. 18	52.49.24	51. 11. 43	49. 34. 18	47. 57. 9	46.20.15
20		44. 43. 36	43. 7. 12	41. 31. 3	39.55. 9	38. 19. 30	36. 44. 6	35. 8. 57	33.34. 3
21		31. 59. 23							
21		68. 42. 53	67. 7. 41	65. 32. 41	63.57.52	62. 23. 14	60. 48. 47	59. 14. 30	57.40.23
22		56. 6. 28	54. 32. 42	52. 59. 6	51.25.40	49. 52. 24	48. 19. 17	46. 46. 19	45 13.31
23	Regulus.	43. 40. 52	42. 8. 22	40. 36. 1	39. 3.48	37. 31. 44	35. 59. 48	34. 28. 1	32.56.22
24		31. 24. 51	29. 53. 28	28. 22. 13	26.51. 6	25. 20. 7	23. 49. 16	22. 18. 32	20.47.56
25		19. 17. 27							
25		73. 20. 6	71. 49. 43	70. 19. 27	68.49.18	67. 19. 15	65. 49. 18	64. 19. 27	62.49.43
26		61. 20. 6	59. 50. 34	58. 21. 7	56.51.46	55. 22. 30	53. 53. 19	52. 24. 12	50.55.10
27	Spica ♍	49. 26. 13	47. 57. 20	46. 28. 30	44.59.44	43. 31. 2	42. 2. 23	40. 33. 47	39. 5.14
28		37. 36. 44	36. 8. 16	34. 39. 51	33.11.28	31. 43. 6	30. 14. 46	28. 46. 28	27.18.11
29		25. 49. 56							
29		71. 35. 40	70. 6. 57	68. 38. 13	67. 9.27	65. 40. 38	64. 11. 46	62. 42. 51	61.13.52
30	Antares.	59. 44. 48	58. 15. 39	56. 46. 24	55.17. 3	53. 47. 36	52. 18. 2	50. 48. 20	49.18.30
31		47. 48. 31	46. 18. 23	44. 48. 6	43.17.39	41. 47. 1	40. 16. 12	38. 45. 12	37.14. 0
F 1		35. 42. 36							
30				121. 27. 45	120. 5.59	118. 44. 8	117. 22. 10	116. 0. 4	114.37.50
31	The Sun.	113. 15. 26	111. 52. 53	110. 30. 10	109. 7.17	107. 44. 14	106. 20. 59	104. 57. 33	103.33.55
F 1		102. 10. 6							

Distances of ☽'s Center from Sun, and from Stars west of her.

Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
1	Regulus.	19. 57. 34	21. 26. 9	22. 54. 47	24.23 28	25. 52. 13	27. 21. 1	28. 49. 53	30.18.51
2		31. 47. 54	33. 17. 3	34. 46. 19	36.15.42	37. 45. 12	39. 14. 50	40. 44. 38	42.14.35
3		43. 44. 42	45. 14. 59	46. 45. 28	48.16. 9	49. 47. 1	51. 18. 6	52. 49. 26	54.21. 1
4		55. 52. 48	57. 24. 52	58. 57. 12	60.29 49	62. 2. 42	63. 35. 53	65. 9. 23	66.43.11
5		68. 17. 19	69. 51. 46	71. 26. 34	73. 1.42	74. 37. 10			
5						20. 42. 19	22. 17. 33	23. 53. 13	25.29.19
6	Spica ♍	27. 5. 50	28. 42. 47	30. 20. 11	31.58. 1	33. 36. 17	35. 14. 58	36. 54. 5	38.33.39
7		40. 13. 38	41. 54. 3	43. 34. 54	45.16.11	46. 57. 53	48. 40. 2	50. 22. 36	52. 5.36
8		53. 49. 1	55. 32. 52	57. 17. 8	59. 1.49	60. 46. 54	62. 32. 24	64. 18. 18	66. 4.35
9		67. 51. 16							
13						40. 41. 18	42. 24. 18	44. 7. 8	45.49.49
14	The Sun.	47. 32. 20	49. 14. 39	50. 56. 45	52.38.38	54. 20. 16	56. 1. 39	57. 42. 46	59.23.38
15		61. 4. 15	62. 44. 36	64. 24. 40	66. 4.27	67. 43. 57	69. 23. 10	71. 2. 5	72.40.42
16		74. 19. 2	75. 57. 4	77. 34. 47	79.12.12	80. 49. 19	82. 26. 8	84. 2. 39	85.38.52
17		87. 14. 46	88. 50. 22	90. 25. 41	92. 0.42	93. 35. 25	95. 9. 50	96. 43. 57	98.17.47
18		99. 51. 20	101. 24. 36	102. 57. 35	104.30.18	106. 2. 44	107. 34. 54	109. 6. 48	110.38.27
19		112. 9. 50	113. 40. 58	115. 11. 50	116.42.28	118. 12. 51	119. 42. 59	121. 12. 53	

Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D M. S.	D. M. S.
17		36. 48. 52	38. 20. 1	39. 51. 34	41.23.28	42. 55. 45	44. 28. 28	46. 1. 25	47.34.37
18	α Pegasi.	49. 8. 0	50. 41. 28	52. 14. 58	53.48.33	55. 22. 12	56. 55. 49	58. 29. 23	60. 2.54
19		61. 36. 20							
19		18. 0. 31	19. 35. 53	21. 11. 21	22.46.56	24. 22. 37	25. 58. 22	27. 34. 6	29. 9.50
20		30. 45. 31	32. 21. 5	33. 56. 33	35.31.54	37. 7. 8	38. 42. 13	40. 17. 10	41.51.58
21	α Arietis.	43. 26. 37	45. 1. 6	46. 35. 26	48. 9.37	49. 43. 40	51. 17. 30	52. 51. 13	54.24.49
22		55. 58. 18							
22		25. 48. 39	27. 14. 19	28. 40. 30	30. 7. 9	31. 34. 14	33. 1. 41	34. 29. 26	35.57.27
23	Aldeba-	37. 25. 42	38. 54. 5	40. 22. 34	41.51.10	43. 19. 51	44. 48. 34	46. 17. 18	47.46. 4
24	ran.	49. 14. 51	50. 43. 38	52. 12. 24	53.41. 9	55. 9. 54	56. 38. 33	58. 7. 11	59.35.47
25		61. 4. 20							
25		18. 5. 42	19. 34. 10	21. 2. 44	22.31.25	24. 0. 9	25. 28. 56	26. 57. 46	28.26.38
26	Pollux.	29. 55. 30	31. 24. 20	32. 53. 8	34.21.55	35. 50. 41	37. 19. 23	38. 48. 6	40.16.45
27		41. 45. 22	43. 13. 57	44. 42. 30	46.11. 2	47. 39. 32	49. 8. 2	50. 36. 26	52. 4.51
28		53. 33. 15							
28		16. 32. 26	18. 0. 59	19. 29. 32	20.58. 5	22. 26. 37	23. 55. 11	25. 23. 48	26.52.24
29		28. 21. 2	29. 49. 41	31. 18. 22	32.47. 6	34. 15. 53	35. 44. 43	37. 13. 36	38.42.34
30	Regulus.	40. 11. 36	41. 40. 43	43. 9. 56	44.39.16	46. 8. 42	47. 38. 15	49. 7. 56	50.37.45
31		52. 7. 43	53. 37. 50	55. 8. 7	56.38.34	58. 9. 11	59. 39. 59	61. 10. 59	62.42.11
F 1		64. 13. 36							

Configurations of the SATELLITES of JUPITER at Half an Hour past Five o' Clock in the Evening.



Days of the Month.	Days of the Week.	Sundays, Holidays, &c.
1	Tu.	
2	W.	*Purification of B.V.Mary.*
3	Th.	Blas. On mor. of Purif.
4	F.	[3 ret.
5	Sa.	Agatha.
6	Su.	*Quinquagesima* or *Shrove*
7	M.	[*Sunday.*
8	Tu.	
9	W.	*Ash-Wednes.* In 8 days
10	Th.	[of Purif. 4 ret.
11	F.	
12	Sa.	Hilary Term ends.
13	Su.	1*st Su. in Lent.* Camb.T.
14	M.	Valentine. [div. n.
15	Tu.	
16	W.	
17	Th.	
18	F.	
19	Sa.	
20	Su.	2*d Sunday in Lent.*
21	M.	
22	Tu.	
23	W.	
24	Th.	*St. Matthias. Pr. Adol.*
25	F.	[*Fred. born.*
26	Sa.	
27	Su.	3*d Sunday in Lent.*
28	M.	

Phases of the Moon.

	D.	H.	M.
Last Quarter —	2.	1.	45
New Moon —	9.	0.	25
First Quarter —	15.	16.	24
Full Moon —	23.	15.	45

Other Phenomena.

D.

3. ☾ ☍ ♏ 7^h. 13′.
☾ ☌ ♏ 19^h. 41′.
☾ ☍ ♐ 22^h. 46′.
4. ☾ 43 Ophiu. 17^h. 19′.
5. ☿ Stationary.
6. ☾ ☍ ♑ 0^h. 49′.
☾ ☌ ♑ 4^h. 31′.
9. ☉ eclipsed, invisible.
10. ☿ ☍ ♒ diff. Lat. 1′.
13. ☾ ☌ ♓ 5^h. 4′.
15. ☾ ☌ Pleiadum 14^h. 36′.
17. ☾ ☌ ♉ 8^h. 13′.
☉ enters ♓ at 16^h. 9′.
18. ♀ ☌ ♓ diff. Lat. 33′.
19. ☾ ☌ ♊ 20^h. 25′.
20. ♀ ☌ ♓ diff. Lat. 56′.
22. ☾ ☌ ♌ 16^h. 2′.
☾ ☌ ♌ 21^h. 7′.
23. ☾ ☌ ♌ 10^h. 25′.
25. ☾ ☌ ♌ 0^h. 20′.

Days of the Month.	Days of the Week.	Sun's Longitude.	Sun's Right Asc. in Time.	Sun's Declin. South.	Equat. of Time. Add.	Diff.
		S. D. M. S.	H. M. S.	D. M. S.	M. S.	S.
1	Tu.	10. 13. 8. 40	21. 2. 28,0	16.53.34	14. 7,3	6,8
2	W.	10. 14. 9. 29	21. 6. 31,4	16.36. 6	14. 14,1	6,0
3	Th.	10. 15. 10. 17	21. 10. 33,9	16.18.21	14. 20,1	5,2
4	F.	10. 16. 11. 5	21. 14. 35,7	16. 0.19	14. 25,3	4,4
5	Sa.	10. 17. 11. 52	21. 18. 36,7	15.42. 0	14. 29,7	3,6
6	*Su.*	10. 18. 12. 37	21. 22. 36,9	15.23.26	14. 33,3	2,8
7	M.	10. 19. 13. 22	21. 26. 36,2	15. 4.35	14. 36,1	2,1
8	Tu.	10. 20. 14. 5	21. 30. 34,9	14.45.29	14. 38,2	1,2
9	W.	10. 21. 14. 46	21. 34. 32,7	14.26. 9	14. 39,4	0,5
10	Th.	10. 22. 15. 27	21. 38. 29,7	14. 6.34	14. 39,9	0,3
11	F.	10. 23. 16. 6	21. 42. 25,9	13.46 45	14. 39,6	1,1
12	Sa.	10. 24. 16. 43	21. 46. 21,4	13.26.43	14. 38,5	1,9
13	*Su.*	10. 25. 17. 18	21. 50. 16,0	13. 6.28	14. 36,6	2,6
14	M.	10. 26. 17. 51	21. 54. 10,0	12.46. 0	14. 34,0	3,4
15	Tu.	10. 27. 18. 23	21. 58. 3,1	12.25.20	14. 30,6	4,1
16	W.	10. 28. 18. 52	22. 1. 55,6	12. 4.29	14. 26,5	4,9
17	Th.	10. 29. 19. 20	22. 5. 47,2	11.43.25	14. 21,6	5,6
18	F.	11. 0. 19 45	22. 9. 38,2	11.22.12	14. 16,0	6,3
19	Sa.	11. 1. 20. 9	22. 13. 28,5	11. 0.47	14. 9,7	6,9
20	*Su.*	11. 2. 20. 31	22. 17. 18,1	10.39 12	14. 2,8	7,6
21	M.	11. 3. 20. 50	22. 21. 7,0	10.17.28	13. 55,2	8,3
22	Tu.	11. 4. 21. 8	22. 24. 55,2	9.55.34	13. 46,9	8,9
23	W.	11. 5. 21. 23	22. 28. 42,9	9.33.32	13. 38,0	9,5
24	Th.	11. 6. 21. 37	22. 32. 29,9	9.11.21	13. 28,5	10,1
25	F.	11. 7. 21. 50	22. 36. 16,3	8.49. 1	13. 18,4	10,7
26	Sa.	11. 8. 22. 0	22. 40. 2,2	8.26.34	13. 7,7	11,2
27	*Su.*	11. 9. 22. 9	22. 43. 47,5	8. 3.59	12. 56,5	11,7
28	M.	11. 10. 22. 16	22. 47. 32,3	7.41.18	12. 44,8	

Days.	Semidiameter of the Sun.	Time of D passing the Meridian.	Hourly Motion of the Sun.	Logarithm of the Sun's Diſtance.	Place of the Moon's Node.
	M. S.	M. S.	M. S.		S. D. M.
1	16. 16,4	1. 8,0	2. 32,1	9,993858	10. 21. 39
7	16. 15,4	1. 7,4	2. 31,8	9,994335	10. 21. 20
13	16. 14,3	1. 6,7	2. 31,4	9,994850	10. 21. 1
19	16. 13,0	1. 6,1	2. 30,9	9,995404	10. 20. 42
25	16. 11,6	1. 5,6	2. 30,5	9,996022	10. 20. 23

The Eclipſes of JUPITER's Satellites will not be viſible this Month, JUPITER being too near the Sun.

Days.	Heliocentric Longitude.	Heliocentric Latitude.	Geocentric Longitude.	Geocentric Latitude.	Declination.	Passage over Merid.
	S. D. M.	D. M.	S. D. M.	D. M.	D. M.	H. M.
MERCURY. Greatest Elong. 19d.						
1	5. 14. 47	6. 8 N	9. 27. 4	3. 15 N	17. 35 S	22. 46
4	5. 27. 18	5. 15	9. 26. 5	2. 45	18. 15	22. 31
7	6. 8. 44	4. 14	9. 26. 15	2. 10	18. 47	22. 22
10	6. 19. 16	3. 8	9. 27. 24	1. 34	19. 16	22. 17
13	6. 29. 6	2. 1	9. 29. 17	0. 59	19. 22	22. 14
16	7. 8. 22	0. 55 N	10. 1. 47	0. 26 N	19. 22	22. 14
19	7. 17. 12	0. 10 S	10. 4. 44	0. 5 S	19. 11	22. 16
22	7. 25. 45	1. 13	10. 8. 4	0. 33	18. 48	22. 19
25	8. 4. 5	2. 12	10. 11. 41	0. 58	18. 14	22. 23
28	8. 12. 20	3. 8	10. 15. 34	1. 19	17. 27	22. 28
VENUS.						
1	1. 29. 0	0. 55 S	11. 24. 30	0. 38 S	2. 46 S	2. 38
7	2. 8. 39	0. 22 S	0. 1. 31	0. 15 S	0. 22 N	2. 39
13	2. 18. 20	0. 13 N	0. 8. 28	0. 9 N	3. 30	2. 41
19	2. 28. 1	0. 46	0. 15. 19	0. 36	6. 36	2. 42
25	3. 7. 43	1. 19	0. 22. 2	1. 5	9. 36	2. 43
MARS.						
1	8. 7. 56	0. 38 S	9. 3. 3	0. 27 S	23. 53 S	21. 10
7	8. 11. 12	0. 44	9. 7. 25	0. 31	23. 47	21. 5
13	8. 14. 30	0. 49	9. 11. 50	0. 36	23. 32	21. 1
19	8. 17. 50	0. 55	9. 16. 14	0. 41	23. 9	20. 57
25	8. 21. 11	1. 1	9. 20. 40	0. 46	22. 38	20. 53
JUPITER.						
1	11. 17. 26	1. 14 S	11. 11. 57	1. 3 S	8. 4 S	1. 52
7	11. 17. 59	1. 14	11. 13. 20	1. 3	7. 32	1. 33
13	11. 18. 32	1. 14	11. 14. 44	1. 3	6. 59	1. 15
19	11. 19. 5	1. 14	11. 16. 9	1. 3	6. 26	0. 57
25	11. 19. 38	1. 15	11. 17. 36	1. 2	5. 52	0. 40
SATURN.						
1	9. 26. 56	0. 13 S	9. 28. 22	0. 12 S	20. 43 S	22. 56
7	9. 27. 7	0. 14	9. 29. 4	0. 13	20. 35	22. 35
13	9. 27. 18	0. 14	9. 29. 44	0. 13	20. 27	22. 14
19	9. 27. 29	0. 15	10. 0. 23	0. 14	20. 19	21. 54
25	9. 27. 40	0. 15	10. 1. 1	0. 14	20. 11	21. 34

Days of the Month.	Days of the Week.	Moon's Longitude at Noon.	Moon's Longitude at Midnight.	Moon's Latitude at Noon.	Moon's Latitude at Midn.
		S. D. M. S.	S. D. M. S.	D. M. S.	D. M. S.
1	Tu.	7. 0. 55. 47	7. 7. 5. 13	4. 58. 22 S	5. 8. 25 S
2	W.	7. 13. 19. 0	7. 19. 37. 50	5. 15. 0	5. 17. 51
3	Th.	7. 26. 2. 1	8. 2. 32. 8	5. 16. 53	5. 11. 51
4	F.	8. 9. 8. 30	8. 15. 51. 29	5. 2. 39	4. 49. 11
5	Sa.	8. 22. 41. 16	8. 29. 37. 56	4. 31. 25	4. 9. 24
6	*Su.*	9. 6. 41. 24	9. 13. 51. 28	3. 43. 16	3. 13. 14
7	M.	9. 21. 7. 41	9. 28. 29. 28	2. 39. 40	2. 3. 1
8	Tu.	10. 5. 56. 3	10. 13. 26. 32	1. 23. 54	0. 42. 57 S
9	W.	10. 20. 59. 45	10. 28. 34. 39	0. 1. 2 S	0. 41. 3 N
10	Th.	11. 6. 9. 55	11. 13. 44. 25	1. 22. 27 N	2. 2. 19
11	F.	11. 21. 16. 56	11. 28. 46. 25	2. 39. 51	3. 14. 23
12	Sa.	0. 6. 11. 55	0. 13. 32. 39	3. 45. 17	4. 12. 7
13	*Su.*	0. 20. 47. 59	0. 27. 57. 26	4. 34. 33	4. 52. 23
14	M.	1. 5. 0. 48	1. 11. 57. 52	5. 5. 30	5. 13. 55
15	Tu.	1. 18. 48. 38	1. 25. 33. 16	5. 17. 44	5. 17. 3
16	W.	2. 2. 11. 53	2. 8. 44. 52	5. 12. 8	5. 3. 12
17	Th.	2. 15. 12. 29	2. 21. 35. 9	4. 50. 32	4. 34. 25
18	F.	2. 27. 53. 16	3. 4. 7. 18	4. 15. 9	3. 53. 3
19	Sa.	3. 10. 17. 38	3. 16. 24. 44	3. 28. 27	3. 1. 40
20	*Su.*	3. 22. 29. 0	3. 28. 30. 50	2. 33. 2	2. 2. 53
21	M.	4. 4. 30. 36	4. 10. 28. 41	1. 31. 33	0. 59. 22 N
22	Tu.	4. 16. 25. 24	4. 22. 21. 2	0. 26. 40 N	0. 6. 12 S
23	W.	4. 28. 15. 53	5. 4. 10. 15	0. 38. 55 S	1. 11. 9
24	Th.	5. 10. 4. 21	5. 15. 58. 30	1. 42. 35	2. 12. 53
25	F.	5. 21. 52. 52	5. 27. 47. 47	2. 41. 45	3. 8. 55
26	Sa.	6. 3. 43. 28	6. 9. 40. 13	3. 34. 4	3. 56. 58
27	*Su.*	6. 15. 38. 20	6. 21. 38. 9	4. 17. 22	4. 34. 59
28	M.	6. 27. 40. 0	7. 3. 44. 15	4. 49. 40	5. 1. 14

Days of the Month.	Days of the Week.	☽'s Age.	☽'s Passage over Merid.	☽'s Right Ascen. at Noon.	☽'s Right Asc. at Midn.	☽'s Declinat. at Noon.	☽'s Declin. at Midn.
			H. M.	D. M.	D. M.	D. M.	D. M.
1	Tu.	23	17. 18	206. 59	212. 58	16. 28 S	18. 45 S
2	W.	24	18. 7	219. 10	225. 37	20. 51	22. 45
3	Th.	25	19. 1	232. 20	239. 20	24. 25	25. 47
4	F.	26	19. 59	246. 35	254. 4	26. 50	27. 30
5	Sa.	27	21. 0	261. 45	269. 35	27. 47	27. 37
6	Su.	28	22. 2	277. 30	285. 25	27. 1	25. 57
7	M.	29	23. 2	293. 18	301. 4	24. 26	22. 30
8	Tu.	30	23. 59	308. 41	316. 8	20. 10	17. 30
9	W.	1	0	323. 24	330. 29	14. 32	11. 20
10	Th.	2	0. 53	337. 26	344. 14	7. 59	4. 31 S
11	F.	3	1. 45	350. 57	357. 35	1. 1 S	2. 29 N
12	Sa.	4	2. 36	4. 12	10. 48	5. 55 N	9. 13
13	Su.	5	3. 27	17. 27	24. 9	12. 22	15. 18
14	M.	6	4. 19	30. 56	37. 48	18. 0	20. 25
15	Tu.	7	5. 12	44. 46	51. 50	22. 32	24. 18
16	W.	8	6. 8	58. 58	66. 9	25. 43	26. 47
17	Th.	9	7. 3	73. 20	80. 31	27. 28	27. 46
18	F.	10	7. 58	87. 37	94. 38	27. 42	27. 17
19	Sa.	11	8. 51	101. 30	108. 13	26. 32	25. 28
20	Su.	12	9. 40	114. 45	121. 5	24. 7	22. 29
21	M.	13	10. 27	127. 15	133. 13	20. 38	18. 35
22	Tu.	14	11. 10	139. 2	144. 41	16. 22	13. 59
23	W.	15	11. 51	150. 12	155. 37	11. 29	8. 53
24	Th.	16	12. 31	160. 57	166. 14	6. 13	3. 29 N
25	F.	17	13. 11	171. 29	176. 41	0. 45 N	2. 1 S
26	Sa.	18	13. 51	182. 0	187. 19	4. 45 S	7. 28
27	Su.	19	14. 32	192. 43	198. 14	10. 7	12. 41
28	M.	20	15. 16	203. 53	209. 42	15. 9	17. 30

Days of the Month.	Days of the Week.	Semidr. ☽ at Noon.	Semidr. ☽ at Midnight.	Hor. Par. ☽ at Noon.	Hor. Par. ☽ at Midnight.	Proport. Logar. at Noon.	Proport. Logar. at Midn.
		M. S.	M. S.	M. S.	M. S.		
1	Tu.	15. 3	15. 8	55. 14	55. 33	5130	5106
2	W.	15. 14	15. 20	55. 53	56. 16	5080	5050
3	Th.	15. 27	15. 34	56. 41	57. 8	5018	4984
4	F.	15. 42	15. 49	57. 36	58. 4	4949	4913
5	Sa.	15. 57	16. 5	58. 33	59. 2	4877	4842
6	*Su.*	16. 13	16. 20	59. 30	59. 57	4808	4775
7	M.	16. 27	16. 32	60. 21	60. 42	4746	4721
8	Tu.	16. 37	16. 41	61. 0	61. 14	4699	4683
9	W.	16. 43	16. 44	61. 22	61. 26	4673	4669
10	Th.	16. 44	16. 43	61. 26	61. 20	4669	4676
11	F.	16. 40	16. 36	61. 10	60. 55	4687	4705
12	Sa.	16. 31	16. 26	60. 37	60. 17	4727	4751
13	*Su.*	16. 19	16. 12	59. 54	59. 29	4778	4809
14	M.	16. 5	15. 58	59. 3	58. 36	4841	4874
15	Tu.	15. 51	15. 44	58. 9	57. 44	4907	4938
16	W.	15. 37	15. 31	57. 19	56. 55	4970	5000
17	Th.	15. 25	15. 19	56. 33	56. 12	5028	5055
18	F.	15. 13	15. 8	55. 52	55. 34	5081	5104
19	Sa.	15. 4	15. 1	55. 19	55. 5	5124	5142
20	*Su.*	14. 57	14. 54	54. 53	54. 42	5158	5173
21	M.	14. 52	14. 50	54. 32	54. 25	5186	5195
22	Tu.	14. 48	14. 46	54. 19	54. 13	5203	5211
23	W.	14. 46	14. 45	54. 10	54. 7	5215	5219
24	Th.	14. 45	14. 45	54. 6	54. 6	5221	5221
25	F.	14. 45	14. 46	54. 7	54. 10	5219	5215
26	Sa.	14. 47	14. 48	54. 14	54. 20	5210	5202
27	*Su.*	14. 50	14. 53	54. 27	54. 36	5193	5181
28	M.	14. 56	14. 59	54. 47	54. 59	5166	5150

Distances of ☽'s Center from Sun, and from Stars east of her.

Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
1	Antares.	35. 42. 37	34. 10. 57	32. 39. 3	31. 6. 55	29. 34. 33	28. 1. 56	26. 29. 0	24. 55. 48
2		23. 22. 20	21. 48. 33	20. 14. 26	18. 40. 0	17. 5. 15			
1	The Sun.	102. 10. 5	100. 46. 0	99. 21. 40	97. 57. 7	96. 32. 18	95. 7. 13	93. 41. 51	92. 16. 12
2		90. 50. 16	89. 24. 0	87. 57. 26	86. 30. 32	85. 3. 20	83. 35. 48	82. 7. 54	80. 39. 40
3		79. 11. 5	77. 42. 6	76. 12. 44	74. 42. 58	73. 12. 50	71. 42. 18	70. 11. 21	68. 40. 0
4		67. 8. 14	65. 36. 1	64. 3. 22	62. 30. 17	60. 56. 46	59. 22. 48	57. 48. 24	56. 13. 32
5		54. 38. 14	53. 2. 27	51. 26. 14	49. 49. 32	48. 12. 25	46. 34. 50	44. 56. 48	43. 18. 19
6		41. 39. 24	40. 0. 2	38. 20. 13					
10	Aldebaran.					83. 17. 2	81. 25. 18	79. 33. 45	77. 42. 26
11		75. 51. 21	74. 0. 29	72. 9. 54	70. 19. 37	68. 29. 37	66. 39. 57	64. 50. 40	63. 1. 44
12		61. 13. 11	59. 25. 2	57. 37. 20	55. 50. 4	54. 3. 16	52. 16. 56	50. 31. 8	48. 45. 52
13		47. 1. 10	45. 17. 0	43. 33. 29	41. 50. 36	40. 8. 22	38. 26. 46	36. 46. 0	35. 6. 3
14		33. 26. 55	31. 48. 34	30. 11. 21	28. 35. 18	27. 0. 28	25. 27. 4	23. 55. 12	22. 24. 59
15		20. 56. 30							
15	Pollux.	61. 5. 54	59. 24. 55	57. 44. 19	56. 4. 8	54. 24. 19	52. 44. 54	51. 5. 51	49. 27. 11
16		47. 48. 53	46. 10. 57	44. 33. 21	42. 56. 8	41. 19. 16	39. 42. 45	38. 6. 34	36. 30. 45
17		34. 55. 17	33. 20. 8	31. 45. 21	30. 10. 55	28. 36. 51	27. 3. 8	25. 29. 48	23. 56. 50
18		22. 24. 14							

Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
18	Regulus.	59. 1. 22	57. 27. 37	55. 54. 5	54. 20. 47	52. 47. 42	51. 14. 50	49. 42. 10	48. 9. 41
19		46. 37. 25	45. 5. 19	43. 33. 23	42. 1. 38	40. 30. 2	38. 58. 36	37. 27. 19	35. 56. 12
20		34. 25. 13	32. 54. 22	31. 23. 39	29. 53. 4	28. 22. 37	26. 52. 17	25. 22. 4	23. 51. 57
21		22. 21. 57							
21	Spica ♍	76. 24. 43	74. 54. 50	73. 25. 1	71. 55. 18	70. 25. 40	68. 56. 7	67. 26. 38	65. 57. 13
22		64. 27. 53	62. 58. 37	61. 29. 25	60. 0. 16	58. 31. 11	57. 2. 9	55. 33. 10	54. 4. 14
23		52. 35. 21	51. 6. 30	49. 37. 41	48. 8. 55	46. 40. 10	45. 11. 28	43. 42. 47	42. 14. 9
24		40. 45. 31	39. 16. 54	37. 48. 18	36. 19. 44	34. 51. 11	33. 22. 40	31. 54. 10	30. 25. 41
25		28. 57. 13	27. 28. 44	26. 0. 18	24. 31. 53	23. 3. 31	21. 35. 11	20. 6. 54	18. 38. 41
26		17. 10. 32							
26	Antares.	62. 52. 31	61. 23. 24	59. 54. 15	58. 25. 3	56. 55. 48	55. 26. 28	53. 57. 4	52. 27. 36
27		50. 58. 3	49. 28. 25	47. 58. 40	46. 28. 50	44. 58. 54	43. 28. 52	41. 58. 42	40. 28. 25
28		38. 58. 1	37. 27. 28	35. 56. 47	34 25. 57	32. 54. 58	31. 23. 49	29. 52. 29	28. 21. 0
M1		26. 49. 19							

Distances of ☽'s Center from Sun, and from Stars west of her.

Days	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D.M.S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
1	Spica ♍	10. 28. 45	11. 58. [illegible]	13. 28. 10	14.58.46	16. 29. 50	18. 1. 25	19. 33. 26	21. 5.54
2		22. 38. 48	24. 12. 2	25. 45. 39	27.19.40	28. 54. 3	30. 28. 46	32. 3. 53	33.39.22
3		35. 15. 15	36. 51. 32	38. 28. 13	40. 5.18	41. 42. 47	43. 20. 40	44. 58. 59	46.37.43
4		48. 16. 53	49. 56. 29	51. 36. 32	53.17. 2	54. 57. 58	56. 39. 21	58. 21. 11	60. 3.29
5		61. 46. 13							
5	Antares.	15. 52. 20	17. 35. 36	19. 19. 20	21. 3.31	22. 48. 11	24. 33. 18	26. 18. 52	28. 4.53
6		29. 51. 21	31. 38. 16	33. 25. 37	35.13.24	37. 1. 36	38. 50. 14	40. 39. 15	42.28.40
7		44. 18. 29	46. 8. 41	47. 59. 13	49.50. 7	51. 41. 22			
11	The Sun.							38. 36. 15	40.19.59
12		42. 3. 25	43. 46. 31	45. 29. 16	47.11.46	48. 53. 44	50. 35. 25	52. 16. 43	53.57.40
13		55. 38. 13	57. 18. 21	58. 58. 6	60.37.27	62. 16. 25	63. 54. 58	65. 33. 8	67.10.53
14		68. 48. 15	70. 25. 10	72. 1. 42	73.37.49	75. 13. 33	76. 48. 51	78. 23. 46	79.58.18
15		81. 32. 26	83. 6. 11	84. 39. 34	86.12.35	87. 45. 13	89. 17. 27	90. 49. 21	92.20.52
16		93. 52. 3	95. 22. 54	96. 53. 24	98.23.35	99. 53. 26	101. 22. 56	102. 52. 10	104.21. 3
17		105. 49. 40	107. 17. 58	108. 46. 0	110.13.46	111. 41. 15	113. 8. 27	114. 35. 25	116. 2. 7
18		117. 28. 35	118. 54. 48	120. 20. 49					

Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
15						21. 13. 24	22. 50. 39	24. 27. 46	26. 4.48
16	α Arietis.	27. 41. 45	29. 18. 32	30. 55. 9	32.31.34	34. 7. 49	35. 43. 47	37. 19. 33	38.55. 5
17		40. 30. 21	42. 5. 24	43. 40. 13	45.14.49	46. 49. 10	48. 23. 18	49. 57. 11	51.30.51
18		53. 4. 17							
18		23. 12. 38	24. 36. 28	26. 0. 57	27.26. 1	28. 51. 35	30. 17. 46	31. 44. 19	33.11.13
19	Aldeba-	34. 38. 28	36. 5. 49	37. 33. 19	39. 0.58	40. 28. 46	41. 56. 36	43. 24. 29	44.52.25
20	ran.	46. 20. 24	47. 48. 23	49. 16. 22	50.44.21	52. 12. 21	53. 40. 19	55. 8. 16	56.36.13
21		58. 4. 8	59. 32. 2	60. 59. 54	62.27.44	63. 55. 33			
21						20. 56. 36	22. 24. 44	23. 52. 56	25.21.12
22	Pollux.	26. 49. 32	28. 17. 54	29. 46. 19	31.14.45	32. 43. 14	34. 11. 42	35. 40. 9	37. 8.38
23		38. 37. 6	40. 5. 34	41. 34. 2	43. 2.30	44. 30. 58	45. 59. 25	47. 27. 52	48.56.20
24		50. 24. 47	51. 53. 15	53. 21. 44	54.50.13	56. 18. 43			
24						19. 18. 9	20. 46. 50	22. 15. 32	23.44.15
25		25. 13. 0	26. 41. 47	28. 10. 34	29.39.24	31. 8. 15	32. 37. 8	34. 6. 3	35.35. 1
26	Regulus.	37. 4. 1	38. 33. 5	40. 2. 12	41.31.24	43. 0. 38	44. 29. 56	45. 59. 19	47.28.47
27		48. 58. 19	50. 27. 56	51. 57. 39	53.27.28	54. 57. 23	56. 27. 25	57. 57. 34	59.27.51
28		60. 58. 15	62. 28. 47	63. 59. 27	65.30.17	67. 1. 16	68. 32. 25	70. 3. 44	71.35.14
M1		73. 6. 55							

The Satellites of JUPITER are not visible this Month, JUPITER being too near the SUN.

Days of the Month.	Days of the Week.	Sundays, Holidays, &c.
1	Tu.	David.
2	W.	Chad.
3	Th.	
4	F.	
5	Sa.	
6	*Su.*	*4th Su. in Lent. Midl. Su.*
7	M.	Perpetua.
8	Tu.	
9	W.	
10	Th.	
11	F.	
12	Sa.	Gregory M.
13	*Su.*	*5th Sunday in Lent.*
14	M.	
15	Tu.	
16	W.	
17	Th.	[T. ends.
18	F.	Edw. K. of W. Sax. Cam.
19	Sa.	Oxford Term ends.
20	*Su.*	*6th Sunday in Lent. Palm*
21	M.	Benedict. [*Sunday.*
22	Tu.	
23	W.	
24	Th.	
25	F.	*Good Friday. Annunci-*
26	Sa.	[*ation of V. Mary.*
27	*Su.*	*Easter-Day.*
28	M.	*Easter-Monday.*
29	Tu.	*Easter-Tuesday.*
30	W.	
31	Th.	

Phases of the Moon.

	D.	H.	M.
Last Quarter	3.	16.	57
New Moon	10.	10.	33
First Quarter	17.	6.	0
Full Moon	25.	10.	8

Other Phenomena.

D.

2. ☿ ☌ ♍ diff. Lat. 58′.
☾ ♐ ♏ 14h. 37′.
3. ☾ ♎ ♏ 3h. 25′.
☾ ♐ ♏ 6h. 34′.
☿ ☍ ♍ diff. Lat. 53′.
4. ☾ 43 Ophiu. 1h. 44′.
5. ☾ ♃ ♑ 10h. 18′.
☾ ♂ ♑ 14h. 9′.
6. ☾ ♂ 21h. 49′.
7. ☿ ☍ ♒ diff. Lat. 6′.
12. ☾ ♈ ☌ 15h. 3′.
13. ♂ ♄ diff. Lat. 42′.
14. ☾ ♈ Pleiadum 22h. 37′.
16. ☾ ♉ ♉ 15h. 6′.
19. ☾ ☌ ♊ 2h. 33′.
☉ enters ♈ at 16h. 32′.
21. ☾ ♈ ☊ 22h. 14′.
22. ☾ ☌ ♐ 3h. 20′.
24. ☾ ♌ ☊ 6h. 36′.
29. ☾ ♐ ♏ 20h. 33′.
30. ☾ ♂ ♏ 5h. 46′.
☾ ♎ ♏ 9h. 29′.
☾ ♐ ♏ 12h. 41′.
31. ☾ 43 Ophiu. 8h. 6′.
♀ ♈ Pleiadum diff. Lat. 10′.

Days of the Month.	Days of the Week.	Sun's Longitude.	Sun's Right Asc. in Time.	Sun's Declin. South.	Equat. of Time. Add.	Diff.
		S. D. M. S.	H. M. S.	D. M. S.	M. S.	S.
1	Tu.	11. 11. 22. 22	22.51.16,7	7. 18. 29	12. 32,6	12,7
2	W.	11. 12. 22. 26	22.55. 0,5	6. 55. 35	12. 19,9	13,1
3	Th.	11. 13. 22. 29	22.58.43,8	6. 32. 34	12. 6,8	13,6
4	F.	11. 14. 22. 30	23. 2.26,7	6. 9. 28	11. 53,2	14,0
5	Sa.	11. 15. 22. 29	23. 6. 9,3	5. 46. 17	11. 39,2	14,4
6	*Su.*	11. 16. 22. 28	23. 9.51,4	5. 23. 0	11. 24,8	14,8
7	M.	11. 17. 22. 24	23.13.33,2	4. 59. 40	11. 10,0	15,1
8	Tu.	11. 18. 22. 18	23.17.14,6	4. 36. 15	10. 54,9	15,5
9	W.	11. 19. 22. 10	23.20.55,6	4. 12. 48	10. 39,4	15,9
10	Th.	11. 20. 22. 1	23.24.36,2	3. 49. 16	10. 23,5	16,2
11	F.	11. 21. 21. 50	23.28.16,5	3. 25. 42	10. 7,3	16,4
12	Sa.	11. 22. 21. 37	23.31.56,5	3. 2. 6	9. 50,9	16,8
13	*Su.*	11. 23. 21. 22	23.35.36,3	2. 38. 28	9. 34,1	17,0
14	M.	11. 24. 21. 4	23.39.15,8	2. 14. 48	9. 17,1	17,3
15	Tu.	11. 25. 20. 44	23.42.55,0	1. 51. 7	8. 59,8	17,6
16	W.	11. 26. 20. 22	23.46.34,0	1. 27. 25	8. 42,2	17,7
17	Th.	11. 27. 19. 57	23.50.12,7	1. 3. 43	8. 24,5	17,9
18	F.	11. 28. 19 31	23.53.51,3	0. 40. 1	8. 6,6	18,2
19	Sa.	11. 29. 19. 1	23.57.29,7	0. 16. 19	7. 48,4	18,3
20	*Su.*	0. 0. 18. 29	0. 1. 7,9	NORTH. 0. 7. 22	7. 30,1	18,4
21	M.	0. 1. 17. 56	0. 4.46,0	0. 31. 2	7. 11,7	18,6
22	Tu.	0. 2. 17. 19	0. 8.23,9	0. 54. 40	6. 53,1	18,6
23	W.	0. 3. 16. 40	0.12. 1,7	1. 18. 17	6. 34,5	18,7
24	Th.	0. 4. 16. 0	0.15.39,6	1. 41. 52	6. 15,8	18,7
25	F.	0. 5. 15. 17	0.19.17,3	2. 5. 25	5. 57,1	18,8
26	Sa.	0. 6. 14. 32	0.22.55,1	2. 28. 55	5. 38,3	18,8
27	*Su.*	0. 7. 13. 45	0.26.32,8	2. 52. 21	5. 19,5	18,7
28	M.	0. 8. 12. 55	0.30.10,6	3. 15. 44	5. 0,8	18,7
29	Tu.	0. 9. 12. 5	0.33.48,4	3. 39. 4	4. 42,1	18,6
30	W.	0. 10. 11. 12	0.37.26,3	4. 2. 20	4. 23,5	18,5
31	Th.	0. 11. 10. 18	0.41. 4,3	4. 25. 31	4. 5,0	

Days of the Month.	Semidiameter of the Sun.	Time of D° passing the Meridian.	Hourly Motion of the Sun.	Logarithm of the Sun's Distance.	Place of the Moon's Node.
	M. S.	M. S.	M. S.		S. D. M.
1	16. 10,6	1. 5,2	2. 30,2	9,996472	10. 20. 11
7	16. 9,1	1. 4,9	2. 29,7	9,997180	10. 19. 51
13	16. 7,5	1. 4,6	2. 29,2	9,997895	10. 19. 32
19	16. 5,9	1. 4,4	2. 28,8	9,998616	10. 19. 13
25	16. 4,2	1. 4,3	2. 28,3	9,999354	10. 18. 54

The Eclipses of JUPITER's Satellites will not be visible this Month, JUPITER being too near the SUN.

Days.	Heliocentric Longitude.	Heliocentric Latitude.	Geocentric Longitude.	Geocentric Latitude.	Declination	Passage over Merid.
	S. D. M.	D. M.	S. D. M.	D. M.	D. M.	H. M.
MERCURY.						
1	8. 15. 5	3. 26 S	10. 16. 55	1. 26 S	17. 9 S	22. 30
4	8. 23. 21	4. 17	10. 21. 6	1. 43	16. 6	22. 36
7	9. 1. 43	5. 2	10. 25. 29	1. 57	14. 53	22. 42
10	9. 10. 19	5. 43	11. 0. 3	2. 7	13. 27	22. 49
13	9. 19. 14	6. 16	11. 4. 49	2. 13	11. 49	22. 57
16	9. 28. 34	6. 41	11. 9. 45	2. 16	10. 1	23. 5
19	10. 8. 27	6. 57	11. 14. 54	2. 14	8. 2	23. 13
22	10. 19. 3	6. 59	11. 20. 13	2. 9	5. 51	23. 22
25	11. 0. 29	6. 46	11. 25. 44	1. 58	3. 30	23. 31
28	11. 12. 56	6. 14	0. 1. 27	1. 44	1. 0 S	23. 41
31	11. 26. 33	5. 19	0. 7. 22	1. 24	1. 38 N	23. 52
VENUS. Greatest Elong. 20d.						
1	3. 14. 12	1. 40 N	0. 26. 26	1. 24 N	11. 31 N	2. 45
7	3. 23. 56	2. 9	1. 2. 55	1. 54	14. 17	2. 47
13	4. 3. 41	2. 33	1. 9. 13	2. 24	16. 52	2. 48
19	4. 13. 26	2. 54	1. 15. 18	2. 54	19. 13	2. 50
25	4. 23. 12	3. 9	1. 21. 8	3. 23	21. 19	2. 52
MARS.						
1	8. 23. 27	1. 4 S	9. 23. 38	0. 49 S	22. 12 S	20. 51
7	8. 26. 52	1. 10	9. 28. 5	0. 54	21. 27	20. 47
13	9. 0. 20	1. 15	10. 2. 33	0. 58	20. 34	20. 44
19	9. 3. 49	1. 20	10. 7. 1	1. 3	19. 34	20. 41
25	9. 7. 21	1. 24	10. 11. 31	1. 8	18. 26	20. 37
JUPITER. ♂ 10d. 11h¾.						
1	11. 19. 59	1. 15 S	11. 18. 34	1. 3 S	5. 29 S	0. 28
7	11. 20. 32	1. 15	11. 20. 0	1. 3	4. 56	0. 11
13	11. 21. 5	1. 15	11. 21. 28	1. 3	4. 21	23. 52
19	11. 21. 38	1. 16	11. 22. 55	1. 3	3. 47	23. 35
25	11. 22. 11	1. 16	11. 24. 22	1. 3	3. 13	23. 19
SATURN.						
1	9. 27. 47	0. 16 S	10. 1. 26	0. 15 S	20. 6 S	21. 21
7	9. 27. 58	0. 16	10. 2. 1	0. 15	19. 59	21. 1
13	9. 28. 9	0. 17	10. 2. 34	0. 16	19. 52	20. 41
19	9. 28. 20	0. 17	10. 3. 5	0. 16	19. 45	20. 21
25	9. 28. 31	0. 18	10. 3. 33	0. 17	19. 39	20. 2

Days of the Month.	Days of the Week.	Moon's Longitude at Noon.	Moon's Longitude at Midnight.	Moon's Latitude at Noon.	Moon's Latitude at Midn.
		S. D. M. S.	S. D. M. S.	D. M. S.	D. M. S.
1	Tu.	7. 9. 51. 19	7. 16. 1. 34	5. 9.32 S	5. 14. 17 S
2	W.	7. 22. 15. 26	7. 28. 33. 22	5.15.22	5. 12. 43
3	Th.	8. 4. 55. 46	8. 11. 23. 7	5. 6.10	4. 55. 42
4	F.	8. 17. 55. 46	8. 24. 34. 6	4.41.17	4. 22. 54
5	Sa.	9. 1. 18. 26	9. 8. 9. 2	4. 0.40	3. 34. 39
6	*Su.*	9. 15. 6. 2	9. 22. 9. 32	3. 5. 6	2. 32. 19
7	M.	9. 29. 19. 24	10. 6. 35. 22	1.56.38	1. 18. 36 S
8	Tu.	10. 13. 57. 2	10. 21. 23. 51	0.38.47 S	0. 2. 7 N
9	W.	10. 28. 54. 57	11. 6. 29. 21	0.43.22 N	1. 24. 6
10	Th.	11. 14. 5. 56	11. 21. 43. 29	2. 3.28	2. 40. 42
11	F.	11. 29. 20. 37	0. 6. 56. 5	3.14.58	3. 45. 37
12	Sa.	0. 14. 28. 33	0. 21. 56. 53	4.12. 8	4. 34. 3
13	*Su.*	0. 29. 20. 2	1. 6. 37. 14	4.51. 8	5. 3. 12
14	M.	1. 13. 47. 51	1. 20. 51. 29	5.10.18	5. 12. 33
15	Tu.	1. 27. 47. 52	2. 4. 37. 0	5.10. 9	5. 3. 22
16	W.	2. 11. 19. 1	2. 17. 54. 14	4.52.32	4. 37. 59
17	Th.	2. 24. 22. 56	3. 0. 45. 37	4.20. 5	3. 59. 12
18	F.	3. 7. 2. 49	3. 13. 15. 7	3.35.43	3. 9. 58
19	Sa.	3. 19. 23. 5	3. 25. 27. 19	2.42.21	2. 13. 10
20	*Su.*	4. 1. 28. 24	4. 7. 26. 56	1.42.45	1. 11. 26
21	M.	4. 13. 23. 26	4. 19. 18. 29	0.39.33 N	0. 7. 22 N
22	Tu.	4. 25. 12. 31	5. 1. 6. 2	0.24.43 S	0. 56. 30 S
23	W.	5. 6. 59. 26	5. 12. 53. 4	1.27.34	1. 57. 44
24	Th.	5. 18. 47. 19	5. 24. 42. 24	2.26.36	2. 53. 56
25	F.	6. 0. 38. 39	6. 6. 36. 14	3.19.24	3. 42. 47
26	Sa.	6. 12. 35. 23	6. 18. 36. 14	4. 3.45	4. 22. 6
27	*Su.*	6. 24. 38. 59	7. 0. 43. 48	4.37.35	4. 50. 0
28	M.	7. 6. 50. 52	7. 13. 0. 18	4.59.10	5. 4. 56
29	Tu.	7. 19. 12. 23	7. 25. 27. 14	5. 7. 9	5. 5. 45
30	W.	8. 1. 45. 7	8. 8. 6. 17	5. 0.38	4. 51. 48
31	Th.	8. 14. 30. 58	8. 20. 59. 26	4.39.12	4. 22. 57

Days of the Month.	Days of the Week.	D's Age.	D's Passage over Merid.	D's Right Ascen. at Noon.	D's Right Asc. at Midn.	D's Declinat. at Noon.	D's Declin. at Midn.
			H. M.	D. M.	D. M.	D. M.	D. M.
1	Tu.	21	16. 2	215. 43	221. 56	19. 40 S	21. 40 S
2	W.	22	16. 54	228. 22	235. 3	23. 26	24. 56
3	Th.	23	17. 49	241. 57	249. 5	26. 10	27. 3
4	F.	24	18. 48	256. 24	263. 53	27. 35	27. 44
5	Sa.	25	19. 47	271. 28	279. 7	27. 29	26. 48
6	*Su.*	26	20. 46	286. 47	294. 23	25. 41	24. 9
7	M.	27	21. 44	301. 55	309. 20	22. 13	19. 55
8	Tu.	28	22. 39	316. 37	323. 46	17. 17	14. 21
9	W.	29	23. 33	330. 48	337. 43	11. 11	7. 50
10	Th.	1	☌	344. 34	351. 21	4. 22 S	0. 50 S
11	F.	2	0. 25	358. 6	4. 52	2. 43 N	6. 13 N
12	Sa.	3	1. 18	11. 40	18. 32	9. 35	12. 47
13	*Su.*	4	2. 11	25. 29	32. 32	15. 47	18. 30
14	M.	5	3. 6	39. 41	46. 55	20. 56	23. 1
15	Tu.	6	4. 3	54. 15	61. 37	24. 43	26. 3
16	W.	7	5. 1	69. 1	76. 23	27. 0	27. 32
17	Th.	8	5. 58	83. 40	90. 51	27. 41	27. 27
18	F.	9	6. 52	97. 53	104. 45	26. 52	25. 58
19	Sa.	10	7. 43	111. 25	117. 52	24. 45	23. 15
20	*Su.*	11	8. 31	124. 7	130. 11	21. 32	19. 35
21	M.	12	9. 15	136. 4	141. 46	17. 27	15. 10
22	Tu.	13	9. 57	147. 21	152. 48	12. 45	10. 13
23	W.	14	10. 38	158. 10	163. 28	7. 36	4. 55 N
24	Th.	15	11. 17	168. 44	174. 0	2. 12 N	0. 33 S
25	F.	16	11. 57	179. 16	184. 35	3. 18 S	6. 2
26	Sa.	17	12. 38	189. 58	195. 28	8. 43	11. 20
27	*Su.*	18	13. 22	201. 5	206. 51	13. 52	16. 16
28	M.	19	14. 8	212. 47	218. 54	18. 31	20. 36
29	Tu.	20	14. 58	225. 14	231. 47	22. 28	24. 5
30	W.	21	15. 51	238. 31	245. 28	25. 27	26. 29
31	Th.	22	16. 48	252. 36	259. 52	27. 11	27. 32

Days of the Month.	Days of the Week.	Semidr. ☽ at Noon.	Semidr. ☽ at Midnight.	Hor. Par. ☽ at Noon.	Hor. Par. ☽ at Midnight.	Proport. Logar. at Noon.	Proport. Logar. at Midn.
		M. S.	M. S.	M. S.	M. S.		
1	Tu.	15. 3	15. 7	55. 15	55. 30	5129	5110
2	W.	15. 12	15. 18	55. 48	56. 9	5086	5059
3	Th.	15. 24	15. 30	56. 31	56. 55	5031	5000
4	F.	15. 37	15. 45	57. 20	57. 47	4968	4934
5	Sa.	15. 52	16. 0	58. 14	58. 42	4901	4866
6	*Su.*	16. 7	16. 15	59. 10	59. 37	4832	4799
7	M.	16. 22	16. 28	60. 3	60. 27	4768	4739
8	Tu.	16. 34	16. 39	60. 48	61. 6	4714	4692
9	W.	16. 43	16. 45	61. 19	61. 28	4677	4665
10	Th.	16. 46	16. 46	61. 33	61. 31	4660	4663
11	F.	16. 44	16. 41	61. 26	61. 15	4669	4682
12	Sa.	16. 37	16. 32	61. 0	60. 42	4699	4721
13	*Su.*	16. 26	16. 19	60. 19	59. 54	4748	4778
14	M.	16. 12	16. 4	59. 27	58. 59	4811	4845
15	Tu.	15. 56	15. 49	58. 29	58. 0	4882	4918
16	W.	15. 41	15. 33	57. 32	57. 5	4953	4987
17	Th.	15. 26	15. 20	56. 39	56. 15	5021	5051
18	F.	15. 14	15. 8	55. 53	55. 33	5080	5106
19	Sa.	15. 3	14. 59	55. 15	54. 59	5129	5150
20	*Su.*	14. 55	14. 52	54. 46	54. 34	5167	5183
21	M.	14. 50	14. 48	54. 25	54. 18	5195	5205
22	Tu.	14. 46	14. 45	54. 12	54. 9	5213	5217
23	W.	14. 45	14. 45	54. 7	54. 7	5219	5219
24	Th.	14. 45	14. 46	54. 8	54. 11	5218	5214
25	F.	14. 47	14. 48	54. 15	54. 20	5209	5202
26	Sa.	14. 50	14. 52	54. 26	54. 34	5194	5183
27	*Su.*	14. 54	14. 57	54. 42	54. 52	5173	5159
28	M.	15. 0	15. 3	55. 3	55. 15	5145	5129
29	Tu.	15. 7	15. 11	55. 29	55. 43	5111	5093
30	W.	15. 16	15. 20	56. 0	56. 17	5071	5049
31	Th.	15. 25	15. 30	56. 36	56. 55	5025	5000

Distances of ☽'s Center from Sun, and from Stars east of her.

Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
1	α Aquilæ	82. 54. 38	81. 36. 18	80. 17. 55	78. 59. 28	77. 40. 56	76. 22. 22	75. 3. 47	73. 45. 13
2		72. 26. 38	71. 8. 5	69. 49. 35	68. 31. 9	67. 12. 46			
2	Fomalhaut					90. 14. 20	88. 46. 25	87. 18. 14	85. 49. 47
3		84. 21. 4	82. 52. 5	81. 22. 52	79. 53. 23	78. 23. 40	76. 53. 42	75. 23. 31	73. 53. 6
4		72. 22. 28							
1	The Sun.	121. 22. 30	119. 58. 9	118. 33. 36	117. 8. 50	115. 43. 53	114. 18. 42	112. 53. 16	111. 27. 37
2		110. 1. 43	108. 35. 33	107. 9. 7	105. 42. 25	104. 15. 27	102. 48. 13	101. 20. 40	99. 52. 50
3		98. 24. 42	96. 56. 14	95. 27. 25	93. 58. 17	92. 28. 49	90. 59. 1	89. 28. 51	87. 58. 20
4		86. 27. 27	84. 56. 11	83. 24. 33	81. 52. 31	80. 20. 7	78. 47. 18	77. 14. 6	75. 40. 29
5		74. 6. 28	72. 32. 1	70. 57. 9	69. 21. 52	67. 46. 10	66. 10. 3	64. 33. 30	62. 56. 33
6		61. 19. 9	59. 41. 18	58. 3. 3	56. 24. 22	54. 45. 16	53. 5. 45	51. 25. 51	49. 45. 32
7		48. 4. 49	46. 23. 40	44. 42. 9	43. 0. 15	41. 17. 59	39. 35. 22		
12	Aldebaran.	53. 8. 16	51. 18. 56	49. 30. 4	47. 41. 41	45. 53. 46	44. 6. 28	42. 19. 47	40. 33. 45
13		38. 48. 22	37. 3. 40	35. 19. 52	33. 36. 58	31. 54. 59	30. 13. 48	28. 34. 1	26. 55. 39
14		25. 18. 41	23. 43. 31	22. 10. 16	20. 39. 4	19. 10. 7			
14	Pollux.					59. 4. 20	57. 20. 22	55. 36. 50	53. 53. 47
15		52. 11. 11	50. 29. 3	48. 47. 21	47. 6. 8	45. 25. 22	43. 45. 4	42. 5. 13	40. 25. 51
16		38. 46. 55	37. 8. 26	35. 30. 23	33. 52. 49	32. 15. 42	30. 39. 3	29. 2. 51	27. 27. 8
17		25. 51. 53							

Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
17	Regulus.	62. 31. 11	60. 55. 8	59. 19. 25	57.44. 3	56. 9. 1	54. 34. 18	52. 59. 54	51.25.48
18		49. 52. 0	48. 18. 29	46. 45. 15	45.12.16	43. 39. 34	42. 7. 7	40. 34. 55	39. 2.56
19		37. 31. 12	35. 59. 41	34. 28. 21	32.57.14	31. 26. 19	29. 55. 35	28. 25. 1	26.54.38
20		25. 24. 25	23. 54. 21	22. 24. 26	20.54.40	19. 25. 2			
20	Spica					73. 27. 54	71. 58. 22	70. 28. 57	68.59.37
21		67. 30. 24	66. 1. 16	64. 32. 12	63. 3.13	61. 34. 18	60. 5. 28	58. 36. 41	57. 7.58
22		55. 39. 17	54. 10. 38	52. 42. 1	51.13.26	49. 44. 53	48. 16. 21	46. 47. 49	45.19.19
23		43. 50. 49	42. 22. 19	40. 53. 49	39.25.19	37. 56. 49	36. 28. 17	34. 59. 45	33.31.12
24		32. 2. 39	30. 34. 4	29. 5. 29	27.36.52	26. 8. 16	24. 39. 39	23. 11. 1	21.42.23
25		20. 13. 45							
25	Antares.	65. 57. 44	64. 28. 25	62. 59. 3	61.29.35	60. 0. 4	58. 30. 28	57. 0. 46	55.31. 0
26		54. 1. 9	52. 31. 12	51. 1. 10	49.31. 2	48. 0. 49	46. 30. 30	45. 0. 4	43.29.30
27		41. 58. 53	40. 28. 7	38. 57. 14	37.26.14	35. 55. 7	34. 23. 52	32. 52. 29	31.20.58
28		29. 49. 19							
28	αAquilæ.	85. 24. 58	84. 6. 26	82. 47. 53	81 29.16	80. 10. 36	78. 51. 55	77. 33. 14	76.14.35
29		74. 55. 57	73. 37. 20	72. 18. 49	71. 0.23	69. 42. 3	68. 23. 51	67. 5. 47	65.47.54
30		64. 30. 12							
30	Fomal-haut.	87. 20. 37	85. 52. 53	84. 25. 0	82.56.57	81. 28. 43	80. 0. 20	78. 31. 48	77. 3. 9
31		75. 34. 20	74. 5. 24	72. 36. 20	71. 7.11	69. 37. 55	68. 8. 33	66. 39. 8	65. 9.39
A.1		63. 40. 6							
30	TheSun.					122. 26. 34	120. 58. 43	119. 30. 35	118. 2.15
31		116. 33. 39	115. 4. 47	113. 35. 40	112. 6.16	110. 36. 37	109. 6. 40	107. 36. 27	106. 5.56
A.1		104. 35. 7							

Distances of ☽'s Center from Sun, and from Stars west of her.

Days.	Stars Names.	Noon.	3 Hours.	6 Hours	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
1	Spica ♍	19. 13. 1	20. 44. 10	22. 15. 35	23.47.17	25. 19. 15	26. 51. 30	28. 24. 2	29.56.51
2		31. 29. 57	33. 3. 19	34. 36. 59	36.10.56	37. 45. 51	39. 19. 43	40. 54. 34	42.29.45
3		44. 5. 14	45. 41. 3	47. 17. 12	48.53.42	50. 30. 33	52. 7. 44	53. 45. 18	55.23.13
4		57. 1. 30	58. 40. 10	60. 19. 13	61.58.40	63. 38. 30			
4						17. 44. 43	19. 25. 1	21. 5. 44	22.46.53
5		24. 28. 26	26. 10. 25	27. 52. 49	29.35.39	31. 18. 54	33. 2. 34	34. 46. 40	36.31.12
6	Antares.	38. 16. 10	40. 1. 35	41. 47. 26	43.33.42	45. 20. 24	47. 7. 30	48. 55. 1	50.42.58
7		52. 31. 21	54. 20. 7	56. 9. 17	57.58.51	59. 48. 48	61. 39. 7	63. 29. 47	65.20.48
8		67. 12. 10	69. 3. 53	70. 55. 53	72.48.12	74. 40. 49	76. 33. 42	78. 26. 48	80.20. 8
9		82. 13. 43							
13				39. 38. 51	41. 19. 51	43. 0. 26	44. 40. 38	46. 20. 25	47.59.46
14		49. 38. 43	51. 17. 14	52. 55. 18	54.32.57	56. 10. 9	57. 46. 52	59. 23. 9	60.58.59
15		62. 34. 23	64. 9. 21	65. 43. 53	67.17.59	68. 51. 39	70. 24. 51	71. 57. 39	73.30. 1
16	The Sun.	75. 1. 59	76. 33. 33	78. 4. 42	79.35.29	81. 5. 51	82. 35. 49	84. 5. 25	85.34.38
17		87. 3. 30	88. 31. 59	90. 0. 9	91.27.58	92. 55. 27	94. 22. 36	95. 49. 28	97.16. 1
18		98. 42. 16	100. 8. 13	101. 33. 55	102.59.20	104. 24. 30	105. 49. 24	107. 14. 3	108.38.29
19		110. 2. 41	111. 26. 39	112. 50. 25	114.13.58	115. 37. 20	117. 0. 30	118. 23. 30	119.46.20
20		121. 9. 0							

Days	Stars Names	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
1	Aldebaran.	20. 7. 39	21. 30. 33	22. 54. 18	24. 19. 4	25. 44. 45	27. 11. 10	28. 38. 3	30. 5. 26
18		31. 33. 18	33. 1. 13	34. 29. 18	35. 57. 33	37. 25. 57	38. 54. 20	40. 22. 43	41. 51. 8
19		43. 19. 34	44. 47. 56	46. 16. 16	47. 44. 33	49. 12. 49	50. 41. 0	52. 9. 7	53. 37. 11
20		55. 5. 12	56. 33. 8	58. 1. 1	59. 28. 50	60. 56. 36	62. 24. 18	63. 51. 56	65. 19. 31
21		66. 47. 3							
21	Pollux.	23. 50. 16	25. 18. 16	26. 46. 16	28. 14. 19	29. 42. 21	31. 10. 26	32. 38. 32	34. 6. 39
22		35. 34. 47	37. 2. 55	38. 31. 4	39. 59. 14	41. 27. 25	42. 55. 37	44. 23. 49	45. 52. 3
23		47. 20. 18	48. 48. 34	50. 16. 52	51. 45. 12	53. 13. 34	54. 41. 58	56. 10. 25	57. 38. 54
24		59. 7. 26							
24	Regulus.	22. 7. 11	23. 35. 56	25. 4. 45	26. 33. 39	28. 2. 36	29. 31. 36	31. 0. 40	32. 29. 49
25		33. 59. 1	35. 28. 17	36. 57. 38	38. 27. 3	39. 56. 32	41. 26. 6	42. 55. 46	44. 25. 30
26		45. 55. 20	47. 25. 14	48. 55. 15	50. 25. 21	51. 55. 34	53. 25. 52	54. 56. 17	56. 26. 49
27		57. 57. 27	59. 28. 11	60. 59. 3	62. 30. 2	64. 1. 9	65. 32. 23	67. 3. 46	68. 35. 16
28		70. 6. 55							
28	Spica ♍	16. 13. 49	17. 44. 40	19. 15. 47	20. 47. 7	22. 18. 44	23. 50. 35	25. 22. 39	26. 54. 58
29		28. 27. 29	30. 0. 12	31. 33. 7	33. 6. 15	34. 39. 36	36. 13. 9	37. 46. 56	39. 20. 55
30		40. 55. 8	42. 29. 34	44. 4. 14	45. 39. 8	47. 14. 16	48. 49. 38	50. 25. 15	52. 1. 7
31		53. 37. 14	55. 13. 36	56. 50. 15	58. 27. 9	60. 4. 20	61. 41. 47	63. 19. 32	64. 57. 34
A. 1		66. 35. 54							

The Satellites of JUPITER are not visible this Month, JUPITER being too near the SUN.

Days of the Month.	Days of the Week.	Sundays, Holidays, &c.
1	F.	
2	Sa.	
3	*Su.*	*1st Su. after East.* Rich.
4	M.	St. Ambrose. [Bp. Chich.
5	Tu.	
6	W.	Oxf. and Camb. Terms
7	Th.	[begin.
8	F.	
9	Sa.	
10	*Su.*	*2d Sunday after Easter.*
11	M.	From East. in 15 d. 1 ret.
12	Tu.	
13	W.	Easter Term begins.
14	Th.	
15	F.	
16	Sa.	
17	*Su.*	*3d Sunday after Easter.*
18	M.	From East. in 3 w. 2 ret.
19	Tu.	Alphege.
20	W.	
21	Th.	
22	F.	
23	Sa.	St. George.
24	*Su.*	*4th Sunday after Easter.*
25	M.	*St. Mark. Prs. Mary born.*
26	Tu.	[From East. in 1 m. 3 r.
27	W.	
28	Th.	
29	F.	
30	Sa.	

Phases of the Moon.

	D.	H.	M.
Last Quarter	2.	4.	23
New Moon	8.	19.	45
First Quarter	15.	21.	48
Full Moon	24.	2.	12

Other Phenomena.

D.

1. ☾ ☌ ♄ 17h. 27′.
   ☾ ☍ ♄ 21h. 24′.
3. ☾ ♄ 16h. 45′.
4. ☾ ♂ 18h. 41′.
11. ☾ ♊ Pleiadum 8h. 36′.
    ☾ ♀ Im. 23h. 53′½. ♀ 15′ N. of ☽'s cent.
12. ☾ ♀ Em. 0h. 28′½. ♀ 13′ North.
    ♂ ☍ ♒ diff. Lat. 41′.
    ☾ β ♉ 23h. 54′.
15. ☾ ϰ ♊ 9h. 55′.
16. ☾ ♌ ♋ 15h. 29′.
18. ☾ ♈ ☊ 4h. 59′.
    ☾ α ♌ 10h. 4′.
19. ☉ enters ♉ at 5h. 16′.
20. ☿ ☌ ♈ diff. Lat. 3′.
    ☾ υ ☊ 13h. 20′.
26. ☾ π ♏ 2h. 25′.
    ☾ σ ♏ 11h. 33′.
    ☾ α ♏ 15h. 13′.
27. ☾ 43 Ophiu. Im. 12h. 28′. ✱ 13′½ N. of ☽'s cent. Em. 12h. 59′. ✱ 14′½ North.
28. ☾ ☌ ♐ 23h. 5′.
29. ☾ ☍ ♐ 3h. 3′.

Days of the Month.	Days of the Week.	Sun's Longitude.	Sun's Right Asc. in Time.	Sun's Declin. North.	Equat. of Time. Add.	Diff.
		S. D. M. S.	H. M. S.	D. M. S.	M. S.	S.
1	F.	0. 12. 9. 21	0. 44. 42,3	4. 48. 38	3. 46,4	18,2
2	Sa.	0. 13. 8. 24	0. 48. 20,6	5. 11. 40	3. 28,2	18,0
3	Su.	0. 14. 7. 25	0. 51. 59,0	5. 34. 37	3. 10,2	17,9
4	M.	0. 15. 6. 24	0. 55. 37,6	5. 57. 28	2. 52,3	17,7
5	Tu.	0. 16. 5. 21	0. 59. 16,5	6. 20. 12	2. 34,6	17,5
6	W.	0. 17. 4. 16	1. 2. 55,5	6. 42. 50	2. 17,1	17,3
7	Th.	0. 18. 3. 10	1. 6. 34,7	7. 5. 22	1. 59,8	17,0
8	F.	0. 19. 2. 2	1. 10. 14,2	7. 27. 46	1. 42,8	16,8
9	Sa.	0. 20. 0. 52	1. 13. 54,0	7. 50. 3	1. 26,0	16,5
10	Su.	0. 20. 59. 39	1. 17. 34,0	8. 12. 12	1. 9,5	16,2
11	M.	0. 21. 58. 24	1. 21. 14,3	8. 34. 12	0. 53,3	15,9
12	Tu.	0. 22. 57. 7	1. 24. 54,9	8. 56. 4	0. 37,4	15,6
13	W.	0. 23. 55. 49	1. 28. 35,8	9. 17. 47	0. 21,8	15,3
14	Th.	0. 24. 54. 29	1. 32. 17,0	9. 39. 21	0. 6,5	14,9
15	F.	0. 25. 53. 6	1. 35. 58,5	10. 0. 46	Sub. 8,4	14,6
16	Sa.	0. 26. 51. 41	1. 39. 40,4	10. 22. 0	0. 23,0	14,3
17	Su.	0. 27. 50. 13	1. 43. 22,7	10. 43. 4	0. 37,3	13,9
18	M.	0. 28. 48. 43	1. 47. 5,3	11. 3. 57	0. 51,2	13,5
19	Tu.	0. 29. 47. 11	1. 50. 48,3	11. 24. 39	1. 4,7	13,2
20	W.	1. 0. 45. 37	1. 54. 31,7	11. 45. 10	1. 17,9	12,8
21	Th.	1. 1. 44. 1	1. 58. 15,4	12. 5. 29	1. 30,7	12,3
22	F.	1. 2. 42. 23	2. 1. 59,5	12. 25. 37	1. 43,0	11,8
23	Sa.	1. 3. 40. 42	2. 5. 44,2	12. 45. 32	1. 54,8	11,3
24	Su.	1. 4. 38. 59	2. 9. 29,5	13. 5. 14	2. 6,1	10,9
25	M.	1. 5. 37. 15	2. 13. 15,2	13. 24. 43	2. 17,0	10,4
26	Tu.	1. 6. 35. 29	2. 17. 1,3	13. 44. 0	2. 27,4	9,9
27	W.	1. 7. 33. 42	2. 20. 48,0	14. 3. 4	2. 37,3	9,3
28	Th.	1. 8. 31. 53	2. 24. 35,2	14. 21. 53	2. 46,6	8,8
29	F.	1. 9. 30. 3	2. 28. 22,9	14. 40. 29	2. 55,4	8,3
30	Sa.	1. 10. 28. 11	2. 32. 11,1	14. 58. 49	3. 3,7	

Days of the Month.	Semidiameter of the Sun.	Time of D° passing the Meridian.	Hourly Motion of the Sun.	Logarithm of the Sun's Distance.	Place of the Moon's Node.
	M. S.	M. S.	M. S.		S. D. M.
1	16. 2,2	1. 4,4	2. 27,6	0,000248	10. 18. 32
7	16. 0,5	1. 4,5	2. 27,1	0,001013	10. 18. 13
13	15. 59,0	1. 4,8	2. 26,5	0,001744	10. 17. 54
19	15. 57,5	1. 5,1	2. 26,1	0,002438	10. 17. 35
25	15. 55,9	1. 5,5	2. 25,6	0,003120	10. 17. 16

Eclipses of the SATELLITES of JUPITER.

I. Satellite. Immerſions.		II. Satellite. Immerſions.		III. Satellite. Immerſions.	
Days	H. M. S.	Days	H. M. S.	Days	H. M. S.
11	0. 8. 39	10	13. 14. 34	11	11. 29. 19
12	18. 37. 44	14	2. 33. 44	18	15. 32. 34
14	13. 6. 47	17	15. 52. 53	25	19. 35. 24
16	7. 35. 49	21	5. 11. 57		
18	2. 4. 50	24	18. 30. 55	IV. Satellite.	
19	20. 33. 49	28	7. 49. 50		
21	15. 2. 46			11	10. 16. 17 I
23	9. 31. 42			11	13. 39. 33 E
25	4. 0. 36			28	4. 37. 33 I
26	22. 29. 28			28	7. 53. 33 E
28	16. 58. 17				
30	11. 27. 3				

Days.	Heliocentric Longitude.	Heliocentric Latitude.	Geocentric Longitude.	Geocentric Latitude.	Declination.	Paſſage over Merid.
	S. D. M.	D. M.	S. D. M.	D. M.	D. M.	H. M.
MERCURY. Sup. ☌ 3d. 14h½.						
1	0. 1. 23	4. 55 S	0. 9. 23	1. 17 S	2. 33 N	23. 55
4	0. 16. 47	3. 25	0. 15. 31	0. 52	5. 19	0. 3
7	1. 3. 31	1. 30 S	0. 21. 47	0. 22 S	8. 10	0. 15
10	1. 21. 27	0. 42 N	0. 28. 5	0. 10 N	10. 58	0. 27
13	2. 10. 8	2. 54	1. 4. 16	0. 43	13. 38	0. 39
16	2. 29. 4	4. 49	1. 10. 13	1. 16	16. 6	0. 51
19	3. 17. 32	6. 10	1. 15. 47	1. 45	18. 15	1. 0
22	4. 5. 1	6. 53	1. 20. 52	2. 9	20. 4	1. 8
25	4. 21. 9	6. 58	1. 25. 19	2. 27	21. 30	1. 16
28	5. 5. 50	6. 35	1. 29. 9	2. 37	22. 32	1. 21
30	5. 14. 52	6. 8	2. 1. 19	2. 39	23. 3	1. 22
VENUS.						
1	5. 4. 34	3. 20 N	1. 27. 32	3. 53 N	23. 25 N	2. 52
7	5. 14. 19	3. 23	2. 2. 35	4. 17	24. 53	2. 52
13	5. 24. 3	3. 21	2. 7. 8	4. 35	26. 3	2. 49
19	6. 3. 46	3. 12	2. 11. 4	4. 49	26. 54	2. 44
25	6. 13. 28	2. 58	2. 14. 13	4. 55	27. 25	2. 35
MARS.						
1	9. 11. 29	1. 29 S	10. 16. 46	1. 13 S	16. 59 S	20. 33
7	9. 15. 5	1. 33	10. 21. 17	1. 18	15. 39	20. 29
13	9. 18. 42	1. 37	10. 25. 47	1. 23	14. 14	20. 25
19	9. 22. 21	1. 40	11. 0. 18	1. 27	12. 44	20. 20
25	9. 26. 1	1. 43	11. 4. 48	1. 31	11. 10	20. 15
JUPITER.						
1	11. 22. 49	1. 16 S	11. 26. 2	1. 4 S	2. 33 S	23. 0
7	11. 23. 22	1. 16	11. 27. 27	1. 4	2. 0	22. 43
13	11. 23. 55	1. 16	11. 28. 50	1. 5	1. 27	22. 26
19	11. 24. 28	1. 17	0. 0. 12	1. 6	0. 55	22. 9
25	11. 25. 0	1. 17	0. 1. 33	1. 6	0. 24	21. 52
SATURN. □ 24d. 14½h.						
1	9. 28. 42	0. 18 S	10. 4. 2	0. 18 S	19. 33 S	19. 39
7	9. 28. 54	0. 19	10. 4. 25	0. 19	19. 29	19. 18
13	9. 29. 5	0. 19	10. 4. 45	0. 20	19. 25	18. 57
19	9. 29. 16	0. 20	10. 5. 1	0. 20	19. 21	18. 36
25	9. 29. 27	0. 20	10. 5. 14	0. 20	19. 18	18. 15

Days of the Month.	Days of the Week.	Moon's Longitude at Noon. S. D. M. S.	Moon's Longitude at Midnight. S. D. M. S.	Moon's Latitude at Noon. D. M. S.	Moon's Latitude at Midn. D. M. S.
1	F.	8. 27. 32. 1	9. 4. 8. 58	4. 3. 4 S	3. 39. 47 S
2	Sa.	9. 10. 50. 35	9. 17. 37. 6	3. 13. 6	2. 43. 31
3	Su.	9. 24. 28. 44	10. 1. 25. 38	2. 11. 6	1. 36. 23
4	M.	10. 8. 27. 53	10. 15. 35. 30	0. 59. 48 S	0. 21. 46 S
5	Tu.	10. 22. 48. 18	11. 0. 6. 7	0. 16. 56 N	0. 55. 51 N
6	W.	11. 7. 28. 20	11. 14. 54. 28	1. 34. 7	2. 11. 7
7	Th.	11. 22. 23. 37	11. 29. 54. 54	2. 46. 3	3. 18. 14
8	F.	0. 7. 27. 9	0. 14. 59. 12	3. 46. 58	4. 11. 42
9	Sa.	0. 22. 29. 44	0. 29. 57. 37	4. 31. 57	4. 47. 25
10	Su.	1. 7. 21. 32	1. 14. 40. 34	4. 57. 54	5. 3. 21
11	M.	1. 21. 53. 49	1. 29. 0. 35	5. 3. 53	4. 59. 40
12	Tu.	2. 6. 0. 24	2. 12. 53. 1	4. 50. 57	4. 38. 12
13	W.	2. 19. 38. 24	2. 26. 16. 37	4. 21. 43	4. 1. 54
14	Th.	3. 2. 47. 58	3. 9. 12. 49	3. 39. 14	3. 14. 10
15	F.	3. 15. 31. 40	3. 21. 45. 7	2. 47. 5	2. 18. 22
16	Sa.	3. 27. 53. 44	4. 3. 58. 13	1. 48. 24	1. 17. 31
17	Su.	4. 9. 59. 13	4. 15. 57. 25	0. 46. 5 N	0. 14. 22 N
18	M.	4. 21. 53. 29	4. 27. 48. 4	0. 17. 16 S	0. 48. 34 S
19	Tu.	5. 3. 41. 47	5. 9. 35. 14	1. 19. 15	1. 48. 58
20	W.	5. 15. 28. 56	5. 21. 23. 24	2. 17. 35	2. 44. 40
21	Th.	5. 27. 19. 4	6. 3. 16. 19	3. 10. 4	3. 33. 27
22	F.	6. 9. 15. 30	6. 15. 16. 51	3. 54. 33	4. 13. 9
23	Sa.	6. 21. 20. 37	6. 27. 26. 56	4. 28. 58	4. 41. 49
24	Su.	7. 3. 35. 55	7. 9. 47. 41	4. 51. 28	4. 57. 45
25	M.	7. 16. 2. 12	7. 22. 19. 35	5. 0. 31	4. 59. 40
26	Tu.	7. 28. 39. 45	8. 5. 2. 48	4. 55. 7	4. 46. 49
27	W.	8. 11. 28. 42	8. 17. 57. 30	4. 34. 52	4. 19. 17
28	Th.	8. 24. 29. 12	9. 1. 3. 55	4. 0. 8	3. 37. 39
29	F.	9. 7. 41. 39	9. 14. 22. 36	3. 12. 3	2. 43. 34
30	Sa.	9. 21. 6. 45	9. 27. 54. 21	2. 12. 36	1. 39. 26

Days of the Month.	Days of the Week.	☽'s Age.	☽'s Passage over Merid.	☽'s Right Ascens. at Noon.	☽'s Right Asc. at Midn.	☽'s Declination at Noon.	☽'s Declination at Midn.
			H. M.	D. M.	D. M.	D. M.	D. M.
1	F.	23	17. 45	267. 14	274. 39	27. 30 S	27. 4 S
2	Sa.	24	18. 43	282. 5	289. 29	26. 14	25. 0
3	Su.	25	19. 39	296. 49	304. 3	23. 24	21. 26
4	M.	26	20. 33	311. 10	318. 10	19. 8	16. 31
5	Tu.	27	21. 25	325. 4	331. 52	13. 40	10. 35
6	W.	28	22. 17	338. 35	345. 15	7. 19	3. 56 S
7	Th.	29	23. 9	351. 53	358. 36	0. 29 S	3. 0 N
8	F.	1	0	5. 20	12. 9	6. 26 N	9. 47
9	Sa.	2	0. 3	19. 4	26. 7	12. 59	15. 57
10	Su.	3	0. 59	33. 18	40. 37	18. 41	21. 5
11	M.	4	1. 56	48. 3	55. 35	23. 9	24. 50
12	Tu.	5	2. 54	63. 11	70. 47	26. 7	26. 58
13	W.	6	3. 53	78. 21	85. 49	27. 24	27. 27
14	Th.	7	4. 50	93. 8	100. 17	27. 6	26. 23
15	F.	8	5. 44	107. 12	113. 56	25. 20	23. 59
16	Sa.	9	6. 33	120. 23	126. 37	22. 23	20. 32
17	Su.	10	7. 19	132. 39	138. 30	18. 30	16. 18
18	M.	11	8. 3	144. 10	149. 42	13. 57	11. 29
19	Tu.	12	8. 44	155. 8	160. 28	8. 56	6. 18
20	W.	13	9. 23	165. 45	171. 1	3. 37 N	0. 54 N
21	Th.	14	10. 3	176. 17	181. 35	1. 50 S	4. 34 S
22	F.	15	10. 44	186. 58	192. 25	7. 16	9. 55
23	Sa.	16	11. 27	198. 0	203. 44	12. 29	14. 57
24	Su.	17	12. 13	209. 38	215. 43	17. 18	19. 28
25	M.	18	13. 2	222. 1	228. 31	21. 27	23. 12
26	Tu.	19	13. 54	235. 14	242. 9	24. 41	25. 52
27	W.	20	14. 49	249. 14	256. 28	26. 43	27. 13
28	Th.	21	15. 47	263. 48	271. 11	27. 21	27. 5
29	F.	22	16. 44	278. 35	285. 56	26. 26	25. 24
30	Sa.	23	17. 39	293. 12	300. 22	24. 0	22. 15

Days of the Month.	Days of the Week.	Semidr. ☽ at Noon.	Semidr. ☽ at Midnight.	Hor. Par. ☽ at Noon.	Hor. Par. ☽ at Midnight.	Propor. Log. at Noon.	Propor. Log. at Midn.
		M. S.	M. S.	M. S.	M. S.		
1	F.	15. 36	15. 42	57. 16	57. 38	4973	4946
2	Sa.	15. 49	15. 55	58. 1	58. 24	4917	4889
3	*Su.*	16. 1	16. 7	58. 47	59. 10	4860	4832
4	M.	16. 13	16. 19	59. 32	59. 54	4805	4778
5	Tu.	16. 25	16. 29	60. 14	60. 31	4754	4734
6	W.	16. 33	16. 36	60. 45	60. 56	4717	4704
7	Th.	16. 38	16. 39	61. 4	61. 7	4694	4691
8	F.	16. 39	16. 37	61. 6	61. 0	4692	4699
9	Sa.	16. 35	16. 31	60. 50	60. 36	4711	4728
10	*Su.*	16. 26	16. 20	60. 18	59. 56	4750	4776
11	M.	16. 13	16. 6	59. 32	59. 6	4805	4837
12	Tu.	15. 59	15. 51	58. 39	58. 12	4870	4903
13	W.	15. 44	15. 36	57. 44	57. 16	4938	4973
14	Th.	15. 29	15. 22	56. 49	56. 24	5008	5040
15	F.	15. 16	15. 10	56. 0	55. 39	5071	5098
16	Sa.	15. 5	15. 0	55. 20	55. 3	5123	5145
17	*Su.*	14. 56	14. 53	54. 49	54. 37	5163	5179
18	M.	14. 50	14. 49	54. 28	54. 21	5191	5201
19	Tu.	14. 47	14. 47	54. 16	54. 14	5207	5210
20	W.	14. 46	14. 47	54. 13	54. 15	5211	5209
21	Th.	14. 48	14. 49	54. 18	54. 23	5205	5198
22	F.	14. 51	14. 53	54. 30	54. 37	5189	5179
23	Sa.	14. 56	14. 59	54. 47	54. 58	5166	5152
24	*Su.*	15. 2	15. 5	55. 9	55. 20	5137	5123
25	M.	15. 8	15. 12	55. 33	55. 47	5106	5087
26	Tu	15. 16	15. 20	56. 1	56. 15	5069	5051
27	W.	15. 24	15. 28	56. 30	56. 45	5032	5013
28	Th.	15. 32	15. 36	57. 1	57. 17	4992	4972
29	F.	15. 41	15. 45	57. 34	57. 50	4951	4931
30	Sa.	15. 50	15. 55	58. 7	58. 24	4910	4889

Distances of ☽'s Center from Sun, and from Stars east of her.

Days	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
1	Fomalhaut.	63. 40. 8	62. 10. 36	60. 41. 4	59. 11. 32	57. 42. 0	56. 12. 33	54. 43. 16	53. 14 10
2		51. 45. 13	50. 16. 31	48. 48. 10	47. 20. 8	45. 52. 27			
1		104. 35. 5	103. 4. 0	101. 32. 36	100. 0. 53	98. 28. 52	96. 56. 32	95. 23. 53	93. 50. 54
2		92. 17. 36	90. 43. 58	89. 10. 1	87. 35. 43	86. 1. 5	84. 26. 7	82. 50. 48	81. 15. 9
3	The Sun.	79. 39. 9	78. 2. 48	76. 26. 6	74. 49. 4	73. 11. 41	71. 33. 57	69. 55. 53	68. 17. 29
4		66. 38. 44	64. 59. 38	63. 20. 13	61. 40. 29	60. 0. 25	58. 20. 2	56. 39. 21	54. 58. 22
5		53. 17. 5	51. 35. 29	49. 53. 37	48. 11. 30	46. 29. 7	44. 46. 30	43. 3. 42	41. 20. 42
6		39. 37. 30							
10		72. 29. 10	70. 39. 38	68. 50. 27	67. 1. 37	65. 13. 8	63. 25. 2	61. 37. 19	59. 50. 0
11	Pollux.	58. 3. 5	56. 16. 35	54. 30. 31	52. 44. 53	50. 59. 41	49. 14. 56	47. 30. 38	45. 46. 48
12		44. 3. 25	42. 20. 31	40. 38. 5	38. 56. 8	37. 14. 40	35. 33. 41	33. 53. 13	32. 13 14
13		30. 33. 46							
13		67. 14 47	65. 34. 47	63. 55. 12	62. 16. 1	60. 37. 16	58. 58. 55	57. 20. 58	55. 43. 24
14		54. 6. 15	52. 29. 29	50. 53. 5	49. 17. 4	47. 41. 25	46. 6. 7	44. 31. 10	42. 56. 33
15	Regulus.	41. 22. 17	39. 48. 20	38. 14. 41	36. 41. 21	35. 8. 19	33. 35. 34	32. 3. 6	30. 30. 54
16		28 58. 59	27. 27. 19	25. 55. 53	24. 24 42	22. 53. 45	21. 23. 2	19. 52. 31	18. 22. 13
17		16. 52. 8							
17	Spica ♍	70. 54. 46	69. 24. 45	67. 54. 53	66. 25. 9	64. 55. 35	63. 26. 8	61. 56. 49	60. 27. 36
18		58. 58. 31	57. 29. 32	56. 0. 38	54 31. 48	53. 3. 4	51. 34. 24	50. 5. 46	48. 37. 11

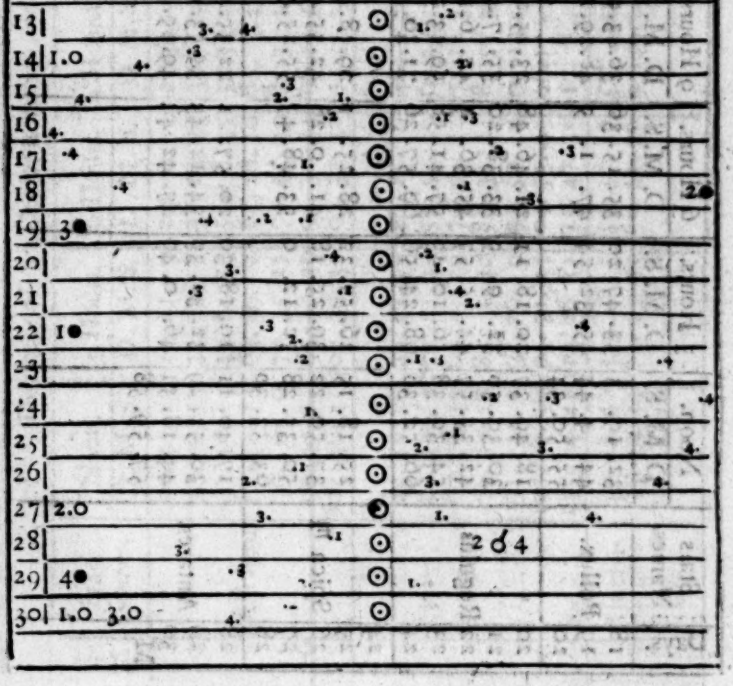
Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
19		47. 8. 39	45. 40. 9	44. 11. 39	42.43.11	41. 14. 44	39. 46. 18	38. 17. 51	36.49.25
20	Spica ♍	35. 20. 58	33. 52. 30	32. 24. 0	30.55.29	29. 26. 56	27. 58. 22	26. 29. 46	25. 1. 8
21		23. 32. 28							
21		69. 17. 22	67. 48. 9	66. 18. 51	64.49.27	63. 19. 58	61. 50. 23	60. 20. 41	58.50.52
22	Antares.	57. 20. 57	55. 50. 54	54. 20. 44	52.50.26	51. 20. 1	49. 49. 29	48. 18. 46	46.47.56
23		45. 16. 58	43. 45. 51	42. 14. 35	40.43.10	39. 11. 36	37. 39. 53	36. 8. 1	34.35.59
24		33. 3. 48							
24		88. 9. 51	86. 50. 32	85. 31. 11	84.11.43	82. 52. 10	81. 32. 33	80. 12. 54	78.53.14
25	α Aquilæ	77. 33. 32	76. 13. 49	74. 54. 9	73.34.32	72. 14. 57	70. 55. 28	69. 36. 7	68.16.53
26		66. 57. 48							
26		90. 15. 5	88. 46. 58	87. 18. 41	85.50.15	84. 21. 40	82. 52. 57	81. 24. 6	79.55. 9
27	Fomal-	78. 26. 5	76. 56. 54	75. 27. 39	73.58.20	72. 28. 57	70. 59. 30	69. 30. 3	68. 0.36
28	haut.	66. 31. 7	65. 1. 40	63. 32. 14	62. 2.53	60. 33. 37	59. 4. 28	57. 35. 28	56. 6.41
29		54. 37. 59							
29		74. 56. 19	73. 20. 47	71. 45. 8	70. 9.21	68. 33. 28	66. 57. 29	65. 21. 25	63.45.16
30	α Pegasi.	62. 9. 3	60. 32. 44	58. 56. 25	57.20. 5	55. 43. 44	54. 7. 26	52. 31. 12	50.55. 3
M1		49. 18. 59							
29		121. 45. 4	120. 12. 49	118. 40. 19	117. 7.36	115. 34. 39	114. 1. 28	112. 28. 3	110.54.25
30	The Sun.	109. 20. 32	107. 46. 23	106. 12. 1	104.37.24	103. 2. 34	101. 27. 29	99. 52. 10	98.16.37
M1		96. 40. 50							

Distances of ☽'s Center from Sun, and from Stars west of her.

Days	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
1	Antares.	20. 42. 27	22. 21. 9	24. 0. 9	25.39.29	27. 19. 7	28. 59. 5	30. 39. 21	32.19.58
2		34. 0. 53	35. 42. 8	37. 23. 43	39. 5.39	40. 47. 54	42. 30. 30	44. 13. 27	45.56.45
3		47. 40. 24	49. 24. 24	51. 8. 45	52.53.27	54. 38. 30	56. 23. 54	58. 9. 40	59.55.46
4		61. 42. 13	63. 29. 2	65. 16. 10	67. 3.40	68. 51. 29	70. 39. 38	72. 28. 6	74.16.54
5		76. 6. 0	77. 55. 27	79. 45. 10	81.35.11	83. 25. 30	85. 16. 4	87. 6. 53	88.57.56
6		90. 49. 15	92. 40. 49	94. 32. 34	96.24.31	98. 16. 40	100. 8. 59	102. 1. 26	103.54. 1
7		105. 46. 45	107. 39. 35	109. 32. 30	111.25.29	113. 18. 33			
11	The Sun.						38. 27. 29	40. 4. 11	41.40.30
12		43. 16. 26	44. 51. 58	46. 27. 6	48 1.50	49. 36. 10	51. 10. 5	52. 43. 36	54.16.41
13		55. 49. 22	57. 21. 39	58. 53. 30	60.24.58	61. 56. 1	63. 26. 40	64. 56. 56	66.26.49
14		67. 56. 19	69. 25. 26	70. 54. 12	72.22.35	73. 50. 37	75. 18. 17	76. 45. 37	78.12.38
15		79. 39. 18	81. 5. 40	82. 31. 44	83.57.30	85. 22. 57	86. 48. 7	88. 13. 1	89.37.39
16		91. 2. 1	92. 26. 9	93. 50. 3	95.13.43	96. 37. 10	98. 0. 24	99. 23. 26	100.46.17
17		102. 8. 56	103. 31. 25	104. 53. 45	106.15.55	107. 37. 56	108. 59. 49	110. 21. 35	111.43.14
18		113. 4. 45	114. 26. 11	115. 47. 31	117. 8.46	118. 29. 56	119. 51. 2	121. 12. 4	
16	Aldebaran.	51. 33. 40	53. 3. 3	54. 32. 17	56. 1.24	57. 30. 21	58. 59. 10	60. 27. 53	61.56.27
17		63. 24. 54	64. 53. 13	66. 21. 26	67.49.32	69. 17. 32	70. 45. 26	72. 13. 15	73.40.59
18		75. 8. 38							

Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
18	Pollux.	32. 19. 3	33. 47. 20	35. 15. 36	36.43.50	38. 12. 2	39. 40. 13	41. 8.24	42.36.34
19		44. 4. 44	45. 32. 54	47. 1. 5	48.29.18	49. 57. 29	51. 25. 43	52. 53. 58	54.22.15
20		55. 50. 34							
20	Regulus.	18. 49. 37	20. 18. 11	21. 46. 48	23.15.29	24. 44. 13	26. 13. 2	27. 41. 55	29.10.53
21		30. 39. 56	32. 9. 5	33. 38. 20	35. 7.40	36. 37. 7	38. 6. 40	39. 36. 19	41. 6. 5
22		42. 35. 57	44. 5. 57	45. 36. 4	47. 6.19	48. 36. 42	50. 7. 13	51. 37. 53	53. 8.41
23		54. 39. 38	56. 10. 43	57. 41. 58	59.13.21	60. 44. 53	62. 16. 34	63. 48. 25	65.20.26
24		66. 52. 36	68. 24. 56	69. 57. 26	71.30. 7	73. 2. 58			
24	Spica ♍					19. 7. 32	20. 39. 51	22. 12. 24	23.45.12
25		25. 18. 15	26. 51. 32	28. 25. 1	29.58.44	31. 32. 40	33. 6. 47	34. 41. 6	36.15.38
26		37. 50. 22	39. 25. 18	41. 0. 26	42.35.46	44. 11. 19	45. 47. 3	47. 22. 59	48.59. 7
27		50. 35. 28	52. 12. 0	53. 48. 45	55.25.42	57. 2. 51	58. 40. 12	60. 17. 46	61.55.32
28		63. 33. 30							
28	Antares.	17. 40. 11	19. 18. 30	20. 57. 1	22.35.44	24. 14. 39	25. 53. 47	27. 33. 8	29.12.42
29		30. 52. 29	32. 32. 30	34. 12. 45	35.53.12	37. 33. 54	39. 14. 48	40. 55. 55	42.37.16
30		44. 18. 51	46. 0. 40	47. 42. 44	49.25. 2	51. 7. 33	52. 50. 19	54. 33. 18	56.16.31
M1		57. 59. 58							

Configurations of the SATELLITES of JUPITER at Half an Hour past Four o' Clock in the Morning.



Days of the Month.	Days of the Week.	Sundays, Holidays, &c.
1	*Su.*	*5th Su. aft. East. Rog. Su.*
2	M.	4 ret. [*St. Phil. & St. Jam.*
3	Tu.	Invention of the Cross.
4	W.	
5	Th.	*Ascension-day. H. Thurs.*
6	F.	On mor. of Ascen. 5 ret.
7	Sa.	[John Ev. ante P. Lat.
8	*Su.*	*Sunday after Ascen. Day.*
9	M.	Easter Term ends.
10	Tu.	
11	W.	
12	Th.	Oxford Term ends.
13	F.	
14	Sa.	
15	*Su.*	*Whit-Sunday.*
16	M.	
17	Tu.	
18	W.	
19	Th.	*Q. Ch. born.* 1744. Dunst.
20	F.	
21	Sa.	
		——————[T. div. m.
22	*Su.*	*Trin. S. Prs. Eliz. b.* Cam.
23	M.	On mor. of H. Trin. 1
24	Tu.	[ret.
25	W.	Oxford Term begins.
26	Th.	Augustin 1st Abp. Cant.
27	F.	V. Bede. Tr. Ter. begins.
28	Sa.	
		——————[*restored.*
29	*Su.*	*1st Su. aft. Tr. K. Char. II.*
30	M.	In 8 days of H.T. 2 ret.
31	Tu.	

Phases of the Moon.

	D.	H.	M.
Last Quarter —	1.	12.	28
New Moon —	8.	4.	31
First Quarter —	15.	15.	0
Full Moon —	23.	15.	28
Last Quarter —	30.	18.	3

Other Phenomena.

D.

6. ☾ ♓ ☌ ♓ 12h. 7′½.
8. ☿ Stationary.
10. ☾ ☍ ♉ 9h. 43′.
☾ ☿ 5h. 47′.
11. ☾ ☌ ♊ 16h. 56′.
12. ♀ Stationary.
13. ☾ ☍ ♋ 23h. 33′.
14. ♄ Stationary.
15. ☾ ☌ ♌ 17h. 37′.
17. ☾ ☍ ♌ 20h. 43′.
20. ☉ enters ♊ at 5h. 52′.
23. ☾ ☌ ♏ Im. before ☽ rises. Em. 8h. 37′.
* 8′ N. of ☽'s cent.
☾ ☍ ♏ 18h. 20′.
☾ ☌ ♏ 21h. 58′.
24. ☾ 43 Ophiu. 19h. 50′.
☾ ☌ ♏ 1h. 5′.
26. ☾ ☍ ♐ 4h. 57′.
☾ ☍ ♑ 8h. 52′.
28. ☾ ☍ ♄ 6h. 28′.

Days of the Month.	Days of the Week.	Sun's Longitude.	Sun's Right Asc. in Time.	Sun's Declin. North.	Equat. of Time. Sub.	Diff.
		S. D. M. S.	H. M. S.	D. M. S.	M. S.	S.
1	*Su.*	1. 11. 26. 18	2.36. 0,0	15.16.56	3. 11,4	7,1
2	M.	1. 12. 24. 24	2.39.49,4	15.34.48	3. 18,5	6,5
3	Tu.	1. 13. 22. 28	2.43.39,4	15.52.24	3. 25,0	6,0
4	W.	1. 14. 20. 31	2.47.29,9	16. 9.44	3. 31,0	5,4
5	Th.	1. 15. 18. 33	2.51.21,0	16.26.49	3. 36,5	4,8
6	F.	1. 16. 16. 33	2.55.12,7	16.43.37	3. 41,3	4,3
7	Sa.	1. 17. 14. 32	2.59. 5,0	17. 0. 9	3. 45,5	3,7
8	*Su.*	1. 18. 12. 30	3. 2.57,9	17.16.24	3. 49,2	3,1
9	M.	1. 19. 10. 26	3. 6.51,4	17.32.22	3. 52,3	2,5
10	Tu.	1. 20. 8. 21	3.10.45,5	17.48. 2	3. 54,8	1,9
11	W.	1. 21. 6. 14	3.14.40,1	18. 3.25	3. 56,7	1,4
12	Th.	1. 22. 4. 5	3.18.35,3	18.18.29	3. 58,1	0,8
13	F.	1. 23. 1. 54	3.22.31,0	18.33.14	3. 58,9	0,3
14	Sa.	1. 23. 59. 42	3.26.27,3	18.47.41	3. 59,2	0,3
15	*Su.*	1. 24. 57. 28	3.30.24,1	19. 1.49	3. 58,9	0,8
16	M.	1. 25. 55. 13	3.34.21,5	19.15.37	3. 58,1	1,4
17	Tu.	1. 26. 52. 56	3.38.19,5	19.29. 6	3. 56,7	2,0
18	W.	1. 27. 50. 37	3.42.18,0	19.42.15	3. 54,7	2,4
19	Th.	1. 28. 48. 17	3.46.17,0	19.55. 4	3. 52,3	3,0
20	F.	1. 29. 45. 55	3.50.16,5	20. 7.33	3. 49,3	3,4
21	Sa.	2. 0. 43. 31	3.54.16,5	20.19.41	3. 45,9	4,0
22	*Su.*	2. 1. 41. 6	3.58.17,1	20.31.28	3. 41,9	4,5
23	M.	2. 2. 38. 39	4. 2.18,2	20.42.54	3. 37,4	5,1
24	Tu.	2. 3. 36. 11	4. 6.19,8	20.53.59	3. 32,3	5,6
25	W.	2. 4. 33. 43	4.10.21,9	21. 4.43	3. 26,7	6,1
26	Th.	2. 5. 31. 14	4.14.24,6	21.15. 5	3. 20,6	6,6
27	F.	2. 6. 28. 45	4.18.27,8	21.25. 5	3. 14,0	7,0
28	Sa.	2. 7. 26. 14	4.22.31,4	21.34.43	3. 7,0	7,5
29	*Su.*	2. 8. 23. 42	4.26.35,5	21.43.58	2. 59,5	8,0
30	M.	2. 9. 21. 9	4.30.40,0	21.52.51	2. 51,5	8,5
31	Tu.	2. 10. 18. 36	4.34.45,0	22. 1.22	2. 43,0	8,9

Days.	Semidiameter of the Sun.	Time of D° passing the Meridian.	Hourly Motion of the Sun.	Logarithm of the Sun's Distance.	Place of the Moon's Node.
	M. S.	M. S.	M. S.		S. D. M.
1	15. 54,4	1. 5,9	2. 25,2	0. 003787	10. 16. 57
7	15. 53,1	1. 6,4	2. 24,9	0. 004414	10. 16. 38
13	15. 51,9	1. 6,9	2..24,6	0. 004970	10. 16. 19
19	15. 50,8	1. 7,4	2. 24,2	0. 005461	10. 16. 0
25	15. 49,8	1. 7,9	2. 23,9	0. 005909	10. 15. 40

Eclipses of the SATELLITES of JUPITER.

I. Satellite. Immerſions.		II. Satellite. Immerſions.		III. Satellite.		
Days	H. M. S.	Days	H. M. S.	Days	H. M. S.	
2	5. 55. 47	1	21. 8. 37	2	23. 37. 17	I
4	0. 24. 30	5	10. 27. 22	3	2. 24. 50	E
5	18. 53. 12	8	23. 46. 2	10	3. 38. 58	I
7	13. 21. 51	12	13. 4. 36	10	6. 25. 16	E
9	7. 50. 26	16	2. 23. 2	17	7. 40. 8	I
11	2. 19. 1	*19	15. 41. 25	17	10. 25. 7	E
12	20. 47. 33	23	4. 59. 42	24	11. 40. 47	I
14	15. 16. 3	26	18. 18. 5	24	14. 24. 32	E
16	9. 44. 30	30	7. 36. 11	*31	15. 40. 54	I
18	4. 12. 57			31	18. 23. 19	E
19	22. 41. 21			IV. Satellite.		
21	17. 9. 45					
23	11. 38. 5			14	22. 57. 34	I
25	6. 6. 23			15	2. 5. 21	E
27	0. 34. 39			31	17. 14. 23	I
28	19. 2. 54			31	20. 13. 26	E
30	13. 31. 7					

Days.	Heliocentric Longitude.	Heliocentric Latitude.	Geocentric Longitude.	Geocentric Latitude.	Declination.	Passage over Merid.
	S. D. M.	D. M.	S. D. M.	D. M.	D. M.	H. M.
Gr. Elong. 1d. MERCURY. Inf. ☌ 23d. 17h.						
1	5. 19. 10	5. 51 N	2. 2. 17	2. 39 N	23. 14 N	1. 23
4	6. 1. 17	4. 55	2. 4. 42	2. 31	23. 34	1. 21
7	6. 12. 24	3. 52	2. 6. 22	2. 13	23. 35	1. 17
10	6. 22. 41	2. 46	2. 7. 17	1. 46	23. 18	1. 10
13	7. 2. 18	1. 38	2. 7. 27	1. 9	22. 43	0. 59
16	7. 11. 24	0. 32 N	2. 6. 55	0. 25 N	21. 53	0. 45
19	7. 20. 8	0. 32 S	2. 5. 47	0. 26 S	20. 53	0. 29
22	7. 28. 37	1. 34	2. 4. 15	1. 18	19. 44	0. 12
25	8. 6. 54	2. 32	2. 2. 35	2. 9	18. 36	23. 48
28	8. 15. 8	3. 27	2. 0. 59	2. 53	17. 33	23. 29
31	8. 23. 24	4. 17	1. 29. 44	3. 28	16. 43	23. 13
VENUS. Inf. ☌ 29th. at 19h.						
1	6. 23. 8	2. 39 N	2. 16. 23	4. 50 N	27. 35 N	2. 22
7	7. 2. 46	2. 16	2. 17. 22	4. 33	27. 24	2. 4
13	7. 12. 23	1. 49	2. 16. 59	3. 59	26. 48	1. 39
19	7. 21. 58	1. 19	2. 15. 9	3. 6	25. 44	1. 8
25	8. 1. 32	0. 47	2. 12. 6	1. 55	24. 11	0. 31
MARS.						
1	9. 29. 43	1. 45 S	11. 9. 18	1. 35 S	9. 33 S	20. 9
7	10. 3. 26	1. 47	11. 13. 48	1. 39	7. 54	20. 3
13	10. 7. 10	1. 49	11. 18. 16	1. 43	6. 13	19. 56
19	10. 10. 56	1. 50	11. 22. 44	1. 46	4. 30	19. 49
25	10. 14. 42	1. 51	11. 27. 10	1. 49	2. 47	19. 41
JUPITER.						
1	11. 25. 33	1. 17 S	0. 2. 51	1. 7 S	0. 7 N	21. 34
7	11. 26. 6	1. 17	0. 4. 7	1. 8	0. 36	21. 15
13	11. 26. 39	1. 17	0. 5. 20	1. 9	1. 4	20. 56
19	11. 27. 12	1. 17	0. 6. 30	1. 10	1. 31	20. 37
25	11. 27. 45	1. 18	0. 7. 38	1. 11	1. 57	20. 17
SATURN.						
1	9. 29. 38	0. 20 S	10. 5. 24	0. 21 S	19. 17 S	17. 53
7	9. 29. 49	0. 21	10. 5. 30	0. 21	19. 16	17. 30
13	10. 0. 0	0. 21	10. 5. 32	0. 22	19. 16	17. 7
19	10. 0. 11	0. 22	10. 5. 31	0. 23	19. 17	16. 43
25	10. 0. 22	0. 22	10. 5. 27	0. 24	19. 18	16. 19

Days of the Month.	Days of the Week.	Moon's Longitude at Noon.	Moon's Longitude at Midnight.	Moon's Latitude at Noon.	Moon's Latitude at Midn.
		S. D. M. S.	S. D. M. S.	D. M. S.	D. M. S.
1	*Su.*	10. 4. 45. 24	10. 11. 40. 7	1. 4. 33 S	0. 28. 23 S
2	M.	10. 18. 38. 28	10. 25. 40. 33	0. 8. 30 N	0. 45. 36 N
3	Tu.	11. 2. 46. 18	11. 9. 55. 38	1. 22. 17	1. 57. 58
4	W.	11. 17. 8. 17	11. 24. 23. 56	2. 32. 1	3. 3. 48
5	Th.	0. 1. 42. 4	0. 9. 2. 6	3. 32. 44	3. 58. 14
6	F.	0. 16. 23. 14	0. 23. 44. 37	4. 19. 51	4. 37. 7
7	Sa.	1. 1. 5. 17	1. 8. 24. 18	4. 49. 46	4. 57. 36
8	*Su.*	1. 15. 40. 37	1. 22. 53. 20	5. 0. 32	4. 58. 38
9	M.	2. 0. 1. 33	2. 7. 4. 34	4. 52. 4	4. 41. 5
10	Tu.	2. 14. 1. 49	2. 20. 52. 53	4. 26. 2	4. 7. 20
11	W.	2. 27. 37. 33	3. 4. 15. 46	3. 45. 24	3. 20. 44
12	Th.	3. 10. 47. 35	3. 17. 13. 16	2. 53. 44	2. 24. 55
13	F.	3. 23. 33. 8	3. 29. 47. 42	1. 54. 41	1. 23. 27
14	Sa.	4. 5. 57. 27	4. 12. 3. 0	0. 51. 37 N	0. 19. 31 N
15	*Su.*	4. 18. 5. 1	4. 24. 4. 7	0. 12. 30 S	0. 44. 8 S
16	M.	5. 0. 1. 0	5. 5. 56. 24	1. 15. 6	1. 45. 3
17	Tu.	5. 11. 50. 55	5. 17. 45. 18	2. 13. 53	2. 41. 11
18	W.	5. 23. 40. 6	5. 29. 35. 59	3. 6. 47	3. 30. 24
19	Th.	6. 5. 33. 27	6. 11. 33. 1	3. 51. 49	4. 10. 47
20	F.	6. 17. 35. 8	6. 23. 40. 8	4. 27. 4	4. 40. 28
21	Sa.	6. 29. 48. 21	7. 6. 0. 0	4. 50. 42	4. 57. 38
22	*Su.*	7. 12. 15. 14	7. 18. 34. 8	5. 1. 4	5. 0. 51
23	M.	7. 24. 56. 44	8. 1. 22. 58	4. 56. 55	4. 49. 9
24	Tu.	8. 7. 52. 46	8. 14. 25. 59	4. 37. 35	4. 22. 15
25	W.	8. 21. 2. 28	8. 27. 42. 2	4. 3. 15	3. 40. 47
26	Th.	9. 4. 24. 28	9. 11. 9. 38	3. 15. 4	2. 46. 23
27	F.	9. 17. 57. 16	9. 24. 47. 19	2. 15. 9	1. 41. 44
28	Sa.	10. 1. 39. 33	10. 8. 33. 56	1. 6. 38 S	0. 30. 19 S
29	*Su.*	10. 15. 30. 18	10. 22. 28. 39	0. 6. 38 N	0. 43. 43 N
30	M.	10. 29. 28. 49	11. 6. 30. 47	1. 20. 17	1. 55. 48
31	Tu.	11. 13. 34. 27	11. 20. 39. 42	2. 29. 41	3. 1. 25

Days of the Month.	Days of the Week.	D's Age.	D's Passage over Merid.	D's Right Ascen. at Noon.	D's Right Asc. at Midn.	D's Declination at Noon.	D's Declination at Midn.
			H. M.	D. M.	D. M.	D. M.	D. M.
1	Su.	24	18. 32	307. 23	314. 16	20. 8 S	17. 46 S
2	M.	25	19. 24	321. 2	327. 41	15. 7	12. 16
3	Tu.	26	20. 14	334. 14	340. 43	9. 13	6. 2 S
4	W.	27	21. 4	347. 11	353. 39	2. 46 S	0. 35 N
5	Th.	28	21. 55	0. 9	6. 43	3. 55 N	7. 14
6	F.	29	22. 48	13. 24	20. 13	10. 27	13. 31
7	Sa.	30	23. 43	27. 11	34. 20	16. 24	19. 1
8	Su.	1	♂	41. 39	49. 7	21. 21	23. 20
9	M.	2	0. 42	56. 41	64. 23	24. 56	26. 8
10	Tu.	3	1. 42	72. 5	79. 45	26. 55	27. 16
11	W.	4	2. 40	87. 20	94. 46	27. 12	26. 44
12	Th.	5	3. 36	102. 0	109. 0	25. 55	24. 45
13	F.	6	4. 28	115. 46	122. 17	23. 18	21. 35
14	Sa.	7	5. 17	128. 34	134. 37	19. 38	17. 31
15	Su.	8	6. 2	140. 28	146. 8	15. 14	12. 49
16	M.	9	6. 44	151. 39	157. 4	10. 19	7. 42
17	Tu.	10	7. 23	162. 24	167. 41	5. 4 N	2. 22 N
18	W.	11	8. 2	172. 57	178. 14	0. 21 S	3. 3 S
19	Th.	12	8. 42	183. 34	188. 58	5. 46	8. 25
20	F.	13	9. 24	194. 28	200. 8	11. 2	13. 33
21	Sa.	14	10. 9	205. 58	211. 57	15. 57	18. 13
22	Su.	15	10. 57	218. 10	224. 37	20. 19	22. 11
23	M.	16	11. 49	231. 17	238. 10	23. 50	25. 10
24	Tu.	17	12. 44	245. 16	252. 32	26. 13	26. 54
25	W.	18	13. 41	259. 56	267. 25	27. 13	27. 7
26	Th.	19	14. 39	274. 55	282. 24	26. 39	25. 45
27	F.	20	15. 35	289. 47	297. 3	24. 30	22. 52
28	Sa.	21	16. 29	304. 10	311. 8	20. 54	18. 38
29	Su.	22	17. 20	317. 56	324. 35	16. 6	13. 21
30	M.	23	18. 9	331. 7	337. 33	10. 25	7. 20
31	Tu.	24	18. 57	343. 54	350. 14	4. 9	0. 55

Days of the Month.	Days of the Week.	Semid^{r}. ☽ at Noon.	Semid^{r}. ☽ at Midnight.	Hor. Par. ☽ at Noon.	Hor. Par. ☽ at Midnight.	Proport. Logar. at Noon.	Proport. Logar. at Midn.
		M. S.	M. S.	M. S.	M. S.		
1	*Su.*	15. 59	16. 4	58. 41	58. 57	4867	4848
2	M.	16. 8	16. 12	59. 13	59. 28	4828	4810
3	Tu.	16. 16	16. 19	59. 41	59. 54	4794	4778
4	W.	16. 22	16. 24	60. 4	60. 12	4766	4757
5	Th.	16. 26	16. 26	60. 18	60. 20	4750	4747
6	F.	16. 26	16. 25	60. 20	60. 17	4747	4751
7	Sa.	16. 23	16. 21	60. 10	60. 0	4759	4771
8	*Su.*	16. 17	16. 13	59. 46	59. 30	4788	4808
9	M.	16. 7	16. 2	59. 11	58. 50	4831	4856
10	Tu.	15. 55	15. 49	58. 27	58. 3	4885	4915
11	W.	15. 42	15. 36	57. 38	57. 14	4946	4976
12	Th.	15. 28	15. 22	56. 49	56. 26	5008	5037
13	F.	15. 16	15. 11	56. 3	55. 41	5067	5095
14	Sa.	15. 5	15. 1	55. 22	55. 6	5120	5141
15	*Su.*	14. 57	14. 54	54. 52	54. 41	5159	5174
16	M.	14. 52	14. 50	54. 32	54. 26	5186	5194
17	Tu.	14. 49	14. 49	54. 22	54. 21	5199	5201
18	W.	14. 48	14. 50	54. 20	54. 25	5202	5195
19	Th.	14. 51	14. 53	54. 30	54. 38	5189	5178
20	F.	14. 56	14. 59	54. 47	54. 58	5166	5152
21	Sa.	15. 2	15. 6	55. 10	55. 25	5136	5116
22	*Su.*	15. 10	15. 14	55. 39	55. 56	5098	5076
23	M.	15. 18	15. 23	56. 10	56. 27	5058	5036
24	Tu.	15. 27	15. 32	56. 43	57. 0	5015	4994
25	W.	15. 36	15. 40	57. 16	57. 31	4973	4955
26	Th.	15. 44	15. 48	57. 46	57. 59	4936	4919
27	F.	15. 52	15. 55	58. 13	58. 25	4902	4887
28	Sa.	15. 58	16. 1	58. 37	58. 48	4872	4859
29	*Su.*	16. 4	16. 6	58. 58	59. 6	4846	4837
30	M.	16. 8	16. 10	59. 14	59. 20	4827	4820
31	Tu.	16. 12	16. 13	59. 26	59. 29	4812	4809

Distances of ☽'s Center from Sun, and from Stars east of her.

Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
1	α Pegasi.	49. 18. 59	47. 43. 7	46. 7. 28	44. 32. 3	42. 56. 52			
1	The Sun.	96. 40. 50	95. 4. 47	93. 28. 30	91. 51. 59	90. 15. 14	88. 38. 15	87. 1. 3	85. 23. 36
2		83. 45. 56	82. 8. 1	80. 29. 53	78. 51. 32	77. 12. 57	75. 34. 9	73. 55. 9	72. 15. 56
3		70. 36. 31	68. 56. 53	67. 17. 4	65. 37. 3	63. 56. 51	62. 16. 29	60. 35. 57	58. 55. 15
4		57. 14. 24	55. 33. 24	53. 52. 16	52. 11. 1	50. 29. 39	48. 48. 11	47. 6. 39	45. 25. 3
5		43. 43. 23	42. 1. 40	40. 19. 57	38. 38. 13	36. 56. 28			
9	Regulus.					79. 46. 25	78. 1. 50	76. 17. 38	74. 33. 48
10		72. 50. 19	71. 7. 12	69. 24. 28	67. 42. 6	66. 0. 7	64. 18. 30	62. 37. 16	60. 56. 25
11		59. 15. 57	57. 35. 52	55. 56. 10	54. 16. 51	52. 37. 55	50. 59. 22	49. 21. 12	47. 43. 23
12		46. 5. 58	44. 28. 54	42. 52. 12	41. 15. 52	39. 39. 53	38. 4. 15	36. 28. 58	34. 54. 2
13		33. 19. 26							
13	Spica ♍	87. 22. 33	85. 48. 15	84. 14. 15	82. 40. 34	81. 7. 12	79. 34. 7	78. 1. 19	76. 28. 47
14		74. 56. 32	73. 24. 32	71. 52. 47	70. 21. 17	68. 50. 0	67. 18. 57	65. 48. 6	64. 17. 28
15		62. 47. 1	61. 16. 46	59. 46. 41	58. 16. 46	56. 47. 1	55. 17. 25	53. 47. 57	52. 18. 37
16		50. 49. 24	49. 20. 17	47. 51. 16	46. 22. 20	44. 53. 30	43. 24. 45	41. 56. 3	40. 27. 25
17		38. 58. 50							
17	Antares.	84. 46. 15	83. 17. 28	81. 48. 41	80. 19. 55	78. 51. 9	77. 22. 23	75. 53. 35	74. 24 45
18		72. 55. 53	71. 26. 57	69. 57. 58	68. 28. 54	66. 59. 47	65. 30. 35	64. 1. 18	62. 31. 55

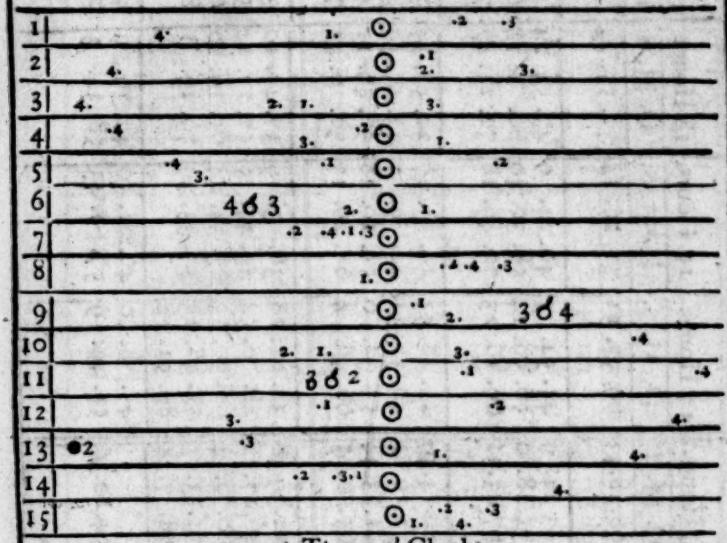
Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
19	Antares.	61. 2.26	59. 32. 50	58. 3. 6	56.33.15	55. 3.16	53. 33. 8	52. 2. 51	50.32.25
20		49. 1. 49	47. 31. 4	46. 0. 8	44.29. 1	42. 57. 44	41. 26. 15	39. 54. 35	38.22.43
21		36. 50. 39	35. 18. 22	33. 45. 53	32.13.11	30. 40. 17	29. 7. 10	27. 33. 49	26. 0.15
22		24. 26. 28	22. 52. 27	21. 18. 13	19.43.44	18. 9. 2	16. 34. 6	14. 58. 56	13.23.31
23		11. 47. 53							
23	Fomalhaut.	93. 41. 31	92. 12. 54	90. 44. 4	89.15. 0	87. 45. 43	86. 16. 14	84. 46. 34	83.16.44
24		81. 46. 44	80. 16. 34	78. 46. 17	77.15.53	75. 45. 21	74. 14. 44	72. 44. 3	71.13.19
25		69. 42. 32	68. 11. 44	66. 40. 56	65.10.10	63. 39. 27	62. 8. 49	60. 38. 18	59. 7.57
26		57. 37. 43							
26	α Pegasi.	78. 1. 32	76. 24. 45	74. 47. 59	73.10.49	71. 33. 41	69. 56. 28	68. 19. 12	66.41.52
27		65. 4. 30	63. 27. 5	61. 49. 42	60.12.20	58. 34. 59	56. 57. 42	55. 20. 31	53.43.27
28		52. 6. 29							
28	α Arietis.	93. 8. 56	91. 25. 32	89. 42. 1	87.58.21	86. 14. 34	84. 30. 39	82. 46. 37	81. 2.27
29		79. 18. 10	77. 33. 45	75. 49. 13	74. 4.35	72. 19. 50	70. 35. 0	68. 50. 5	67. 5. 4
30		65. 19. 58	63. 34. 46	61. 49. 30	60. 4. 9	58. 18. 43	56. 33. 13	54. 47. 40	53. 2. 3
31		51. 16. 24							
28	The Sun.					119. 20. 57	117. 44. 17	116. 7. 28	114.30.30
29		112. 53. 24	111. 16. 10	109. 38. 48	108. 1.19	106. 23. 42	104. 45. 59	103. 8. 9	101.30.13
30		99. 52. 10	98. 14. 1	96. 35. 46	94.57.25	93. 18. 58	91. 40. 26	90. 1. 49	88.23. 7
31		86. 44. 20	85. 5. 28	83. 26. 32	81.47.32	80. 8. 27	78. 29. 19	76. 50. 9	75.10.55
1.		73. 31. 37							

Distances of ☽'s Center from Sun, and from Stars west of her.

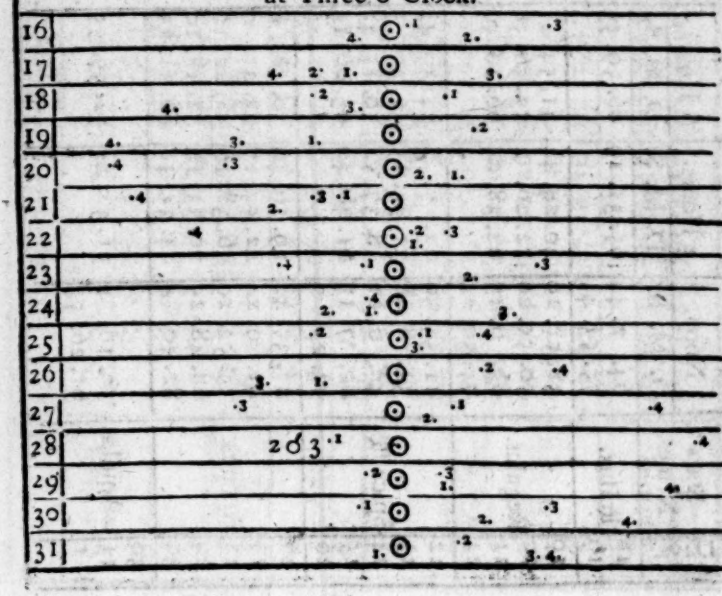
Days	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
1	Antares.	57. 59. 58	59. 43. 41	61. 27. 38	63.11.48	64. 56. 12	66. 40. 50	68. 25. 42	70.10.48
2		71. 56. 9	73. 41. 44	75. 27. 33	77.13.35	78. 59. 51	80. 46. 20	82. 33. 3	84.19.57
3		86. 7. 6	87. 54. 27	89. 42. 1	91.29.47	93. 17. 44	95. 5. 53	96. 54. 13	98.42.42
4		100. 31. 23							
4	α Aquilæ.	53. 7. 14	54. 31. 30	55. 56. 45	57.23. 0	58. 50. 13	60. 18. 19	61. 47. 9	63.16.44
5		64. 47. 2	66. 17. 55	67. 49. 19	69.21.14	70. 53. 36	72. 26. 22	73. 59. 27	75.32.50
6		77. 6. 31	78. 40. 26	80. 14. 28	81.48.39	83. 22. 57			
11	The Sun.	36. 41. 17	38. 13. 12	39. 44. 47	41.16. 3	42. 46. 58	44. 17. 33	45. 47. 49	47.17.45
12		48. 47. 21	50. 16. 37	51. 45. 33	53.14.10	54. 42. 27	56. 10. 23	57. 38. 1	59. 5.19
13		60. 32. 19	61. 59. 1	63. 25. 25	64.51.32	66. 17. 21	67. 42. 53	69. 8. 8	70.33. 7
14		71. 57. 51	73. 22. 20	74. 46. 36	76.10.38	77. 34. 26	78. 58. 1	80. 21. 23	81.44.33
15		83. 7. 32	84. 30. 20	85. 52. 58	87.15.27	88. 37. 47	89. 59. 57	91. 22. 0	92.43.55
16		94. 5. 43	95. 27. 26	96. 49. 3	98.10.36	99. 32. 3	100. 53. 26	102. 14. 46	103.36. 2
17		104. 57. 17	106. 18. 30	107. 39. 43	109. 0.55	110. 22. 7	111. 43. 18	113. 4. 31	114.25.45
18		115. 47. 1	117. 8. 19	118. 29. 42	119.51. 8	121. 12. 38			
15	Pollux.					34. 32. 27	36. 1. 21	37. 30. 10	38.58.55
16		40. 27. 37	41. 56. 15	43. 24. 50	44.53.22	46. 21. 50	47. 50. 16	49. 18. 40	50.47. 3
17		52. 15. 24	53. 43. 45	55. 12. 7	56.40.30	58. 8. 53	59. 37. 17	61. 5. 44	62.34 13

Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S	D. M. S.
18	Pollux.	64. 2. 44	65. 31. 19	66. 59. 59	68.28.43	69. 57. 31	71. 26. 25	72. 55. 24	74.24.30
19		75. 53. 41							
19	Regulus.	38. 55. 10	40. 24. 42	41. 54. 21	43 24. 9	44. 54. 5	46. 24. 9	47. 54. 24	49.24.47
20		50. 55. 20	52. 26. 2	53. 56. 56	55.28. 0	56. 59. 14	58. 30. 40	60. 2. 18	61.34. 8
21		63. 6. 10	64. 38. 24	66. 10. 51	67.43.31	69. 16. 23	70. 49. 28	72. 22. 47	73.56.19
22		75. 30. 4							
22	Spica ♍	21. 33. 39	23. 7. 2	24. 40. 42	26.14.40	27. 48. 55	29. 23. 27	30. 58. 15	32.33.20
23		34. 8. 40	35. 44. 15	37. 20. 5	38.56.11	40. 32. 31	42. 9. 7	43. 45. 57	45.23. 2
24		47. 0. 21	48. 37. 54	50. 15. 42	51.53.44	53. 32. 0	55. 10. 28	56. 49. 11	58.28. 8
25		60. 7. 17	61. 46. 40	63. 26. 15	65. 6. 3	66. 46. 4	68. 26. 17	70. 6. 42	71.47.19
26		73. 28. 7							
26	Antares.	27. 35. 42	29. 16. 49	30. 58. 8	32.39.38	34. 21. 18	36. 3. 9	37. 45. 10	39.27.21
27		41. 9. 44	42. 52. 17	44. 35. 0	46.17.52	48. 0. 54	49. 44. 5	51. 27. 24	53.10.52
28		54. 54. 29	56. 38. 16	58. 22. 10	60. 6.14	61. 50. 25	63. 34. 44	65. 19. 10	67. 3.44
29		68. 48. 25	70. 33. 14	72. 18. 10	74. 3.13	75. 48. 23	77. 33. 39	79. 19. 1	81. 4.30
30		82. 50. 4	84. 35. 45	86. 21. 31	88. 7.24	89. 53. 22			
30	ꭤ Aquilæ.	50. 16. 1	51. 36. 24	52. 57. 55	54.20.30	45. 8. 0	46. 22. 50	47. 39. 9	48.56.53
31		61. 26. 54				55. 44. 9	57. 8. 43	58. 34. 3	60. 0. 5
J. 1									

Configurations of the SATELLITES of JUPITER at Four o' Clock in the Morning.



at Three o' Clock.



Days of the Month.	Days of the Week.	Sundays, Holidays, &c.
1	W.	Nicomede.
2	Th.	
3	F.	
4	Sa.	*K. Geo.* III. *born* 1738.
		[*bo.* Boniface.
5	*Su.*	*2d S. aft. Tr. Pr. Ern. Aug.*
6	M.	In 15 days of H.T. 3 ret.
7	Tu.	
8	W.	
9	Th.	
10	F.	*Prs. Amelia born.*
11	Sa.	*St. Barnabas.*
12	*Su.*	*3d Sunday after Trinity.*
13	M.	In 3 w. of H. T. 4 ret.
14	Tu.	
15	W.	Trinity Term ends.
16	Th.	
17	F.	St. Alban.
18	Sa.	
19	*Su.*	*4th Sunday after Trinity.*
20	M.	Tr. of Edw. K. W. Sax.
21	Tu.	
22	W.	
23	Th.	
24	F.	*St. John Baptist.*
25	Sa.	
26	*Su.*	*5th Sunday after Trinity.*
27	M.	
28	Tu.	
29	W.	*St. Peter.*
30	Th.	

Phases of the Moon.

	D.	H.	M.
New Moon	6.	13.	44
First Quarter	14.	8.	34
Full Moon	22.	2.	17
Last Quarter	28.	22.	27

Other Phenomena.

D.

2. ☾ ☍ ♓ 19h. 46′.
4. ☿ Stationary.
5. ☾ ☍ ♉ 3h. 48′.
8. ☾ ☌ ♊ 2h. 7′.
10. ☾ ☍ ♋ 8h. 8′.
12. ♂ ☿ diff. Lat. 41′.
14. ☾ ☐ ♌ 4h. 32′.
☿ ♀ diff. Lat. 74′.
19. ☾ ☌ ♍ 17h. 34′.
20. ☾ ☌ ♍ 2h. 33′.
☾ ☌ ♍ 6h. 8′.
☿ Stationary.
☉ enters ♋ at 14h. 37′.
21. ☾ 43 Ophiuchi 3h. 48′.
22. ☾ ☍ ♐ Im. 11h. 54′. * 3′ North of ☽'s center.
Em. 13h. 8′. * 2′ S.
☾ ☌ ♐ 12h. 24′.
24. ☾ ☌ ♄ 11h. 14′.
26. ☾ ☌ ♎ 6h. 56′.
30. ☾ ☍ ♓ 1h. 26′.

Days of the Month.	Days of the Week.	Sun's Longitude.	Sun's Right Asc. in Time.	Sun's Declin. North.	Equat. of Time. Sub.	Diff.
		S. D. M. S.	H. M. S.	D. M. S.	M. S.	S.
1	W.	2. 11. 16. 3	4. 38. 50,6	22. 9.27	2. 34,1	9,3
2	Th.	2. 12. 13. 29	4. 42. 56,5	22.17.12	2. 24,8	9,7
3	F.	2. 13. 10. 54	4. 47. 2,8	22.24.33	2. 15,1	10,1
4	Sa.	2. 14. 8. 19	4. 51. 9,5	22.31.31	2. 5,0	10,5
5	*Su.*	2. 15. 5. 43	4. 55. 16,6	22.38. 5	1. 54,5	10,8
6	M.	2. 16. 3. 6	4. 59. 23,9	22.44.15	1. 43,7	11,1
7	Tu.	2. 17. 0. 29	5. 3. 31,5	22.50. 1	1. 32,6	11,3
8	W.	2. 17. 57. 51	5. 7. 39,4	22.55.24	1. 21,3	11,6
9	Th.	2. 18. 55. 12	5. 11. 47,6	23. 0.22	1. 9,7	11,9
10	F.	2. 19. 52. 32	5. 15. 56,1	23. 4.56	0. 57,8	12,1
11	Sa.	2. 20. 49. 51	5. 20. 4,8	23. 9. 5	0. 45,7	12,2
12	*Su.*	2. 21. 47. 10	5. 24. 13,7	23.12.50	0. 33,5	12,4
13	M.	2. 22. 44. 28	5. 28. 22,7	23.16.11	0. 21,1	12,5
14	Tu.	2. 23. 41. 45	5. 32. 31,8	23.19. 7	0. 8,6	12,6
15	W.	2. 24. 39. 1	5. 36. 41,0	23.21.38	Ad: 4,0	12,8
16	Th.	2. 25. 36. 16	5. 40. 50,3	23.23.45	0. 16,8	12,8
17	F.	2. 26. 33. 30	5. 44. 59,7	23 25.27	0. 29,6	12,8
18	Sa.	2. 27. 30. 44	5. 49. 9,1	23.26.44	0. 42,4	12,9
19	*Su.*	2. 28. 27. 57	5. 53. 18,5	23.27.36	0. 55,3	12,8
20	M.	2. 29. 25. 9	5. 57. 28,0	23.28. 3	1. 8,1	12,8
21	Tu.	3. 0. 22. 21	6. 1. 37,5	23.28. 6	1. 20,9	12,8
22	W.	3. 1. 19. 33	6. 5. 46,9	23.27.44	1. 33,7	12,8
23	Th.	3. 2. 16. 45	6. 9. 56,2	23.26.57	1. 46,5	12,7
24	F.	3. 3. 13. 56	6. 14. 5,5	23.25.45	1. 59,2	12,6
25	Sa.	3. 4. 11. 7	6. 18. 14,7	23.24. 9	2. 11,8	12,5
26	*Su.*	3. 5. 8. 18	6. 22. 23,8	23.22. 8	2. 24,3	12,3
27	M.	3. 6. 5. 29	6. 26. 32,7	23.19.43	2. 36,6	12,1
28	Tu.	3. 7. 2. 40	6. 30. 41,4	23.16.53	2. 48,7	12,0
29	W.	3. 7. 59. 52	6. 34. 50,0	23.13.38	3. 0,7	11,9
30	Th.	3. 8. 57. 4	6. 38. 58,4	23. 9 59	3. 12,6	

Days of the Month.	Semidiameter of the Sun.	Time of D° passing the Meridian.	Hourly Motion of the Sun.	Logarithm of the Sun's Distance.	Place of the Moon's Node.
	M. S.	M. S.	M. S.		S. D. M.
1	15. 48,8	1. 8,3	2. 23,6	0. 006380	10. 15. 18
7	15. 48,1	1. 8,6	2. 23,3	0. 006708	10. 14. 59
13	15. 47,5	1. 8,7	2. 23,2	0. 006939	10. 14. 40
19	15. 47,1	1. 8,8	2. 23,0	0. 007097	10. 14. 21
25	15. 46,9	1. 8,8	2. 23,0	0. 007199	10. 14. 2

ECLIPSES of the SATELLITES of JUPITER.

I. Satellite. Immersions.		II. Satellite. Immersions.		III. Satellite.	
Days	H. M. S.	Days	H. M. S.	Days	H. M. S.
1	7. 59. 20	2	20. 54. 9	7	19. 40. 42 I
3	2. 27. 29	6	10. 12. 10	7	22. 21. 51 E
4	20. 55. 37	9	23. 30. 6	14	23. 40. 9 I
6	15. 23. 44	13	12. 48. 2	15	2. 19. 59 E
8	9. 51. 50	17	2. 5. 54	22	3. 39. 33 I
10	4. 19. 55	20	15. 23. 47	22	6. 18. 4 E
11	22. 47. 59	24	4. 41. 36	29	7. 38. 57 I
13	17. 16. 3	27	17. 59. 32	29	10. 16. 6 E
15	11. 44. 6				
17	6. 12. 9			IV. Satellite.	
19	0. 40. 12				
20	19. 8. 14			17	11. 30. 16 I
22	13*36. 16			17	14*20. 2 E
24	8. 4. 20				
26	2. 32. 23				
27	21. 0. 28				
29	15. 28. 32				

Days.	Heliocentric Longitude.	Heliocentric Latitude.	Geocentric Longitude.	Geocentric Latitude.	Declination.	Passage over Merid.
	S. D. M.	D. M.	S. D. M.	D. M.	D. M.	H. M.
MERCURY. Gr. Elong. 18d.						
1	8. 26. 11	4. 33 S	1. 29. 26	3. 38 S	16. 31 N	23. 9
4	9. 4. 38	5. 17	1. 28. 53	3. 58	16. 4	22. 55
7	9. 13. 19	5. 55	1. 29. 0	4. 8	15. 56	22. 44
10	9. 22. 22	6. 26	1. 29. 47	4. 7	16. 6	22. 36
13	10. 1. 53	6. 48	2. 1. 15	3. 57	16. 33	22. 30
16	10. 12. 0	6. 59	2. 3. 21	3. 40	17. 15	22. 27
19	10. 22. 51	6. 57	2. 6. 4	3. 16	18. 8	22. 26
22	11. 4. 37	6. 38	2. 9. 22	2. 47	19. 8	22. 28
25	11. 17. 28	5. 58	2. 13. 13	2. 14	20. 12	22. 32
28	0. 1. 32	4. 55	2. 17. 37	1. 39	21. 15	22. 39
30	0. 11. 39	3. 57	2. 20. 51	1. 14	21. 56	22. 44
VENUS.						
1	8. 12. 40	0. 7 N	2. 7. 46	0. 19 N	21. 56 N	23. 38
7	8. 22. 11	0. 26 S	2. 4. 22	1. 5 S	19. 58	23. 1
13	9. 1. 41	0. 59	2. 1. 58	2. 15	18. 22	22. 28
19	9. 11. 10	1. 31	2. 0. 55	3. 10	17. 16	22. 0
25	9. 20. 39	1. 59	2. 1. 17	3. 48	16. 43	21. 38
MARS.						
1	10. 19. 7	1. 51 S	0. 2. 20	1. 52 S	0. 47 S	19. 32
7	10. 22. 55	1. 51	0. 6. 41	1. 54	0. 55 N	19. 23
13	10. 26. 44	1. 50	0. 11. 2	1. 56	2. 36	19. 14
19	11. 0. 32	1. 48	0. 15. 19	1. 57	4. 14	19. 5
25	11. 4. 20	1. 46	0. 19. 33	1. 58	5. 50	18. 56
JUPITER.						
1	11. 28. 23	1. 18 S	0. 8. 51	1. 12 S	2. 24 N	19. 53
7	11. 28. 56	1. 18	0. 9. 50	1. 13	2. 47	19. 32
13	11. 29. 29	1. 18	0. 10. 44	1. 15	3. 7	19. 10
19	0. 0. 2	1. 18	0. 11. 34	1. 16	3. 25	18. 48
25	0. 0. 35	1. 18	0. 12. 19	1. 18	3. 41	18. 26
SATURN.						
1	10. 0. 35	0. 23 S	10. 5. 18	0. 24 S	19. 22 S	15. 49
7	10. 0. 46	0. 23	10. 5. 6	0. 25	19. 25	15. 24
13	10. 0. 57	0. 24	10. 4. 51	0. 26	19. 29	14. 58
19	10. 1. 8	0. 24	10. 4. 34	0. 27	19. 34	14. 32
25	10. 1. 19	0. 25	10. 4. 14	0. 27	19. 40	14. 6

Days of the Month.	Days of the Week.	Moon's Longitude at Noon.	Moon's Longitude at Midnight.	Moon's Latitude at Noon.	Moon's Latitude at Midn.
		S. D. M. S.	S. D. M. S.	D. M. S.	D. M. S.
1	W.	11. 27. 46. 19	0. 4. 54. 6	3. 30. 24 N	3. 56. 11 N
2	Th.	0. 12. 2. 45	0. 19. 11. 52	4. 18. 19	4. 36. 25
3	F.	0. 26. 21. 0	1. 3. 29. 41	4. 50. 12	4. 59. 25
4	Sa.	1. 10. 37. 16	1. 17. 43. 9	5. 3. 59	5. 3. 50
5	*Su.*	1. 24. 46. 44	2. 1. 47. 19	4. 59. 2	4. 49. 46
6	M.	2. 8. 44. 23	2. 15. 37. 22	4. 36. 15	4. 18. 48
7	Tu.	2. 22. 25. 51	2. 29. 9. 28	3. 57. 49	3. 33. 45
8	W.	3. 5. 47. 59	3. 12. 21. 16	3. 7. 1	2. 38. 7
9	Th.	3. 18. 49. 21	3. 25. 12. 18	2. 7. 29	1. 35. 36
10	F.	4. 1. 30. 20	4. 7. 43. 46	1. 2. 54 N	0. 29. 48 N
11	Sa.	4. 13. 52. 58	4. 19. 58. 24	0. 3. 18 S	0. 36. 4 S
12	*Su.*	4. 26. 0. 35	5. 2. 0. 6	1. 8. 10	1. 39. 17
13	M.	5. 7. 57. 33	5. 13. 53. 34	2. 9. 9	2. 37. 30
14	Tu.	5. 19. 48. 47	5. 25. 43. 54	3. 4. 6	3. 28. 43
15	W.	6. 1. 39. 31	6. 7. 36. 18	3. 51. 8	4. 11. 6
16	Th.	6. 13. 34. 52	6. 19. 35. 46	4. 28. 26	4. 42. 56
17	F.	6. 25. 39. 35	7. 1. 46. 46	4. 54. 23	5. 2. 34
18	Sa.	7. 7. 57. 44	7. 14. 12. 52	5. 7. 20	5. 8. 30
19	*Su.*	7. 20. 32. 24	7. 26. 56. 34	5. 5. 56	4. 59. 33
20	M.	8. 3. 25. 27	8. 9. 59. 2	4. 49. 16	4. 35. 3
21	Tu.	8. 16. 37. 17	8. 23. 20. 0	4. 16. 58	3. 55. 8
22	W.	9. 0. 6. 58	9. 6. 57. 51	3. 29. 43	3. 1. 2
23	Th.	9. 13. 52. 18	9. 20. 49. 52	2. 29. 25	1. 55. 17
24	F.	9. 27. 50. 9	10. 4. 52. 40	1. 19. 10	0. 41. 37 S
25	Sa.	10. 11. 57. 0	10. 19. 2. 41	0. 3. 12 S	0. 35. 24 N
26	*Su.*	10. 26. 9. 21	11. 3. 16. 36	1. 13. 34 N	1. 50. 40
27	M.	11. 10. 24. 8	11. 17. 31. 35	2. 26. 5	2. 59. 13
28	Tu.	11. 24. 38. 44	0. 1. 45. 17	3. 29. 33	3. 56. 37
29	W.	0. 8. 51. 3	0. 15. 55. 42	4. 19. 58	4. 39. 18
30	Th.	0. 22. 59. 4	1. 0. 0. 55	4. 54. 20	5. 4. 54
J. 1	F.	1. 7. 0. 58		5. 10. 51	

Days of the Month.	Days of the Week.	☽'s Age.	☽'s Passage over Merid.	☽'s Right Ascen. at Noon.	☽'s Right Asc. at Midn.	☽'s Declination at Noon.	☽'s Declination at Midn.
			H. M.	D. M.	D. M.	D. M.	D. M.
1	W.	25	19. 46	356. 34	2. 56	2. 20 N	5. 34 N
2	Th.	26	20. 36	9. 22	15. 55	8. 44	11. 47
3	F.	27	21. 29	22. 37	29. 28	14. 41	17. 23
4	Sa.	28	22. 25	36. 31	43. 43	19. 50	22. 0
5	Su.	29	23. 24	51. 6	58. 36	23. 49	25. 16
6	M.	1	♂	66. 13	73. 52	26. 20	26. 58
7	Tu.	2	0. 23	81. 30	89. 3	27. 12	27. 1
8	W.	3	1. 21	96. 28	103. 42	26. 27	25. 31
9	Th.	4	2. 16	110. 42	117. 29	24. 15	22. 41
10	F.	5	3. 6	124. 0	130. 17	20. 52	18. 51
11	Sa.	6	3. 52	136. 20	142. 11	16. 38	14. 16
12	Su.	7	4. 35	147. 52	153. 24	11. 48	9. 14
13	M.	8	5. 15	158. 49	164. 9	6. 56	3. 55 N
14	Tu.	9	5. 54	169. 26	174. 42	1. 13 N	1. 29 S
15	W.	10	6. 33	180. 0	185. 19	4. 12 S	6. 52
16	Th.	11	7. 14	190. 44	196. 15	9. 30	12. 2
17	F.	12	7. 57	201. 56	207. 47	14. 30	16. 51
18	Sa.	13	8. 43	213. 50	220. 7	19. 1	21. 1
19	Su.	14	9. 34	226. 37	233. 23	22. 49	24. 21
20	M.	15	10. 28	240. 22	247. 35	25. 36	26. 30
21	Tu.	16	11. 25	254. 59	262. 33	27. 3	27. 13
22	W.	17	12. 24	270. 8	277. 45	26. 58	26. 18
23	Th.	18	13. 22	285. 21	292. 51	25. 13	23. 45
24	F.	19	14. 18	300. 13	307. 24	21. 55	19. 44
25	Sa.	20	15. 11	314. 26	321. 17	17. 17	14. 34
26	Su.	21	16. 1	327. 58	334. 32	11. 40	8. 35
27	M.	22	16. 50	340. 59	347. 21	5. 25 S	2. 11 S
28	Tu.	23	17. 39	353. 42	0. 2	1. 5 N	4. 19 N
29	W.	24	18. 28	6. 24	12. 51	7. 30	10. 34
30	Th.	25	19. 19	19. 23	26. 3	13. 30	16. 15

Days of the Month.	Days of the Week.	Semidr. ☽ at Noon.	Semidr. ☽ at Midnight.	Hor. Par. ☽ at Noon.	Hor. Par. ☽ at Midnight.	Proport. Logar. at Noon.	Proport. Logar. at Midn.
		M. S.	M. S.	M. S.	M. S.		
1	W.	16. 14	16. 14	59. 34	59. 36	4802	4800
2	Th.	16. 14	16. 14	59. 35	59. 34	4801	4802
3	F.	16. 13	16. 11	59. 30	59. 25	4808	4813
4	Sa.	16. 9	16. 7	59. 17	59. 7	4823	4835
5	*Su.*	16. 3	16. 0	58. 55	58. 42	4850	4866
6	M.	15. 55	15. 50	58. 26	58. 8	4886	4908
7	Tu.	15. 45	15. 40	57. 50	57. 30	4931	4956
8	W.	15. 35	15. 29	57. 10	56. 50	4981	5006
9	Th.	15. 24	15. 18	56. 30	56. 10	5032	5058
10	F.	15. 13	15. 8	55. 51	55. 33	5082	5106
11	Sa.	15. 4	15. 0	55. 17	55. 2	5127	5146
12	*Su.*	14. 56	14. 54	54. 50	54. 39	5162	5177
13	M.	14. 52	14. 50	54. 32	54. 26	5186	5194
14	Tu.	14. 49	14. 49	54. 24	54. 23	5197	5198
15	W.	14. 50	14. 51	54. 26	54. 30	5194	5189
16	Th.	14. 53	14. 56	54. 38	54. 47	5178	5166
17	F.	14. 59	15. 3	54. 59	55. 13	5150	5132
18	Sa.	15. 7	15. 12	55. 29	55. 46	5111	5089
19	*Su.*	15. 17	15. 22	56. 5	57. 24	5064	5040
20	M.	15. 28	15. 33	56. 45	57. 5	5013	4987
21	Tu.	15. 39	15. 44	57. 26	57. 46	4961	4936
22	W.	15. 50	15. 54	58. 5	58. 23	4912	4890
23	Th.	15. 59	16. 3	58. 39	58. 54	4870	4852
24	F.	16. 6	16. 9	59. 6	59. 17	4837	4823
25	Sa.	16. 11	16. 13	59. 25	59. 31	4813	4806
26	*Su.*	16. 14	16. 15	59. 35	59. 37	4801	4799
27	M.	16. 15	16. 14	59. 38	59. 36	4798	4800
28	Tu.	16. 14	16. 12	59. 34	59. 29	4802	4809
29	W.	16. 11	16. 9	59. 24	59. 17	4815	4823
30	Th.	16. 7	16. 5	59. 9	59. 1	4833	4843

Distances of ☽'s Center from Sun, and from Stars east of her.

Days	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
1		73. 31. 38	71. 52. 19	70. 12. 57	68. 33. 33	66. 54. 8	65. 14. 41	63. 35. 13	61. 55. 45
2	The Sun.	60. 16. 17	58. 36. 49	56. 57. 23	55. 17. 57	53. 38. 33	51. 59. 11	50. 19. 52	48. 40. 36
3		47. 1. 23	45. 22. 14	43. 43. 10	42. 4. 12	40. 25. 20			
8		51. 5. 22	49. 26. 30	47. 47. 57	46. 9. 43	44. 31. 48	42. 54. 11	41. 16. 53	39. 39. 54
9	Regulus.	38. 3. 14	36. 26. 52	34. 50. 49	33. 15. 5	31. 39. 39	30. 4. 32	28. 29. 43	26 55. 13
10		25. 21. 1							
10		79. 23. 49	77. 49. 48	76. 16. 3	74. 42. 35	73. 9. 23	71. 36. 27	70. 3. 46	68. 31. 21
11		66. 59. 10	65. 27. 14	63. 55. 32	62. 24. 3	60. 52. 47	59. 21. 44	57. 50. 54	56. 20. 15
12	Spica ♍	54. 49. 48	53. 19. 32	51. 49. 26	50. 19. 30	48. 49. 43	47. 20. 5	45. 50. 36	44. 21. 15
13		42. 52. 1	41. 22. 54	39. 53. 53	38. 24. 59	36. 56. 10	35. 27. 26	33. 58. 47	32. 30. 12
14		31. 1. 41							
14		76. 46. 33	75. 17. 42	73. 48. 51	72. 20. 1	70. 51. 11	69. 22. 20	67. 53. 27	66. 24. 32
15		64. 55. 35	63. 26. 35	61. 57. 30	60. 28. 21	58. 59. 7	57. 29. 47	56. 0. 21	54. 30. 48
16	Antares.	53. 1. 9	51. 31. 22	50. 1. 26	48. 31. 21	47. 1. 7	45. 30. 43	44. 0. 8	42. 29. 23
17		40. 58. 26	39. 27. 17	37. 55. 55	36. 24. 21	34. 52. 33	33. 20. 31	31. 48. 15	30. 15. 45
18		28. 43. 1							
18		84. 31. 55	83. 11. 55	81. 51. 46	80. 31. 29	79. 11. 1	77. 50. 30	76. 29. 52	75. 9. 13
19	ε Aquilæ.	73. 48. 28	72. 27. 40	71. 6. 53	69 46. 6	68. 25. 22	67. 4. 41	65. 44. 7	64. 23. 39
20		63. 3. 14							

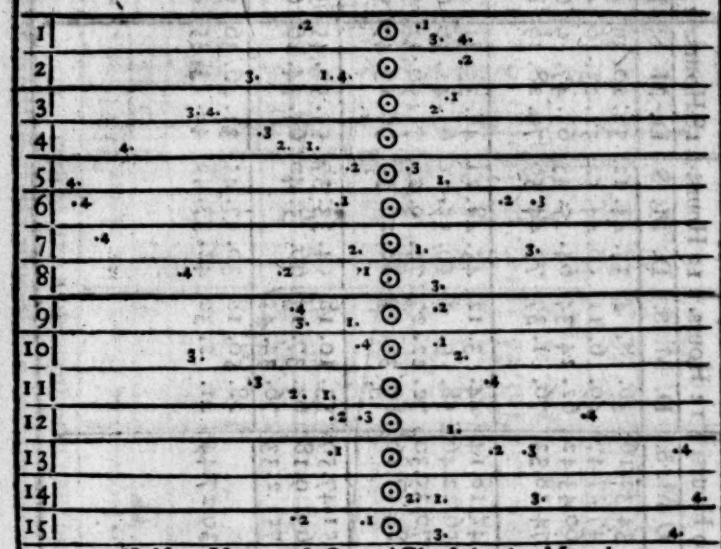
Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S
20	Fomal-haut.	85. 51. 52	84. 21. 44	82. 51. 25	81.20.49	79. 50. 2	78. 19. 1	76. 47. 50	75.16 28
21		73. 44. 57	72. 13. 17	70. 41. 30	69. 9.38	67. 37. 41	66. 5. 39	64. 33. 37	63. 1.37
22		61. 29. 38	59. 57. 42	58. 25. 55	56.54.19	55. 22. 53	53. 51. 41	52. 20. 51	50.50.22
23		49. 20. 15							
23	α Pegasi.	68. 56. 38	67. 17. 7	65. 37. 30	63.57.50	62. 18. 7	60. 38. 23	58. 58. 40	57.19. 1
24		55. 39. 25	53. 59. 56	52. 20. 36	50.41.27	49. 2. 32	47. 23. 53	45. 45. 34	44. 7.38
25		42. 30. 7							
25	α Arietis.	82. 50. 4	81. 3. 42	79. 17. 16	77.30.46	75. 44. 12	73. 57. 35	72. 10. 56	70.24.15
26		68. 37. 33	66. 50. 50	65. 4. 7	63.17.24	61. 30. 42	59. 44. 0	57. 57. 20	56.10.42
27		54. 24. 6							
27	Aldeba-ran.	86. 38. 31	84. 53. 6	83. 7. 45	81.22.27	79. 37. 12	77. 52. 0	76. 6. 52	74.21.48
28		72. 36. 50	70. 51. 59	69. 7. 15	67.22.37	65. 38. 7	63. 53. 45	62. 9. 31	60.25.26
29		58. 41. 29							
26	The Sun.					122. 19. 10	120. 39. 20	118. 59. 30	117.19.41
27		115. 39. 53	114. 0. 5	112. 20. 19	110.40.35	109. 0. 53	107. 21. 13	105. 41. 36	104. 2. 2
28		102. 22. 31	100. 43. 5	99. 3. 42	97.24.23	95. 45. 9	94. 5. 59	92. 26. 53	90.47.53
29		89. 8. 59	87. 30. 10	85. 51. 26	84.12.48	82. 34. 16	80. 55. 50	79. 17. 30	77.39.16
30		76. 1. 9	74. 23. 9	72. 45. 15	71. 7.29	69. 29. 50	67. 52. 17	66. 14. 53	64.37.38
J. 1		63. 0. 30							

Distances of ☽'s Center from Sun, and from Stars west of her.

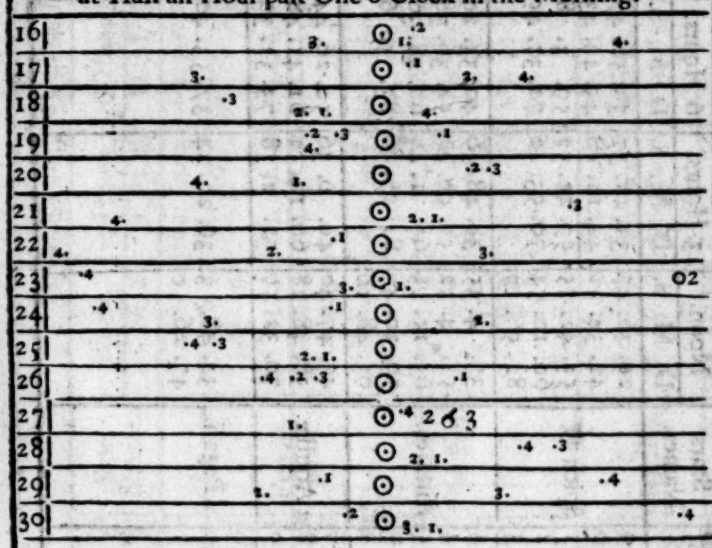
Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
1		61. 26. 54	62. 54. 21	64. 22. 22	65.50.56	67. 20. 2	68. 49. 33	70. 19. 28	71.49.45
2	α Aquilæ.	73. 20. 23	74. 51. 16	76. 22. 24	77.53.45	79. 25. 18	80. 56. 59	82. 28. 48	84. 0.41
3		85. 32. 40							
3		60. 15. 39	61. 51. 48	63. 28. 13	65. 4.54	66. 41. 47	68. 18. 51	69. 56. 4	71.33.23
4	Fomal-haut.	73. 10. 47	74. 48. 16	76. 25. 44	78. 3.12	79. 40. 39	81. 18. 4	82. 55. 25	84.32.42
5		86. 9. 55							
10		41. 38. 27	43. 4. 52	44. 31. 3	45.56.59	47. 22. 41	48. 48. 8	50. 13. 21	51.38.21
11		53. 3. 7	54. 27. 39	55. 51. 58	57.16. 5	58. 40. 0	60. 3. 43	61. 27. 14	62.50.35
12		64. 13. 45	65. 36. 45	66. 59. 35	68.22.16	69. 44. 49	71. 7. 13	72. 29. 30	73.51.40
13	The Sun.	75. 13. 44	76. 35. 41	77. 57. 33	79.19.20	80. 41. 3	82. 2. 42	83. 24. 18	84.45.52
14		86. 7. 23	87. 28. 53	88. 50. 22	90.11.51	91. 33. 20	92. 54. 50	94. 16. 22	95.37.56
15		96. 59. 32	98. 21. 12	99. 42. 56	101. 4.44	102. 26. 37	103. 48. 36	105. 10. 41	106.32.53
16		107. 55. 11	109. 17. 39	110. 40. 13	112. 2.57	113. 25. 50	114. 48. 53	116. 12. 6	117.35.30
17		118. 59. 4							
15		35. 3. 1	36. 31. 55	38. 0. 52	39.29.56	40. 59. 4	42. 28. 18	43. 57. 39	45.27. 7
16		46. 56. 42	48. 26. 26	49. 56. 18	51.26.19	52. 56. 30	54. 26. 51	55. 57. 23	57.28. 6
17	Regulus.	58. 59. 0	60. 30. 6	62. 1. 25	63.32.56	65. 4. 41	66. 36. 40	68. 8. 53	69.41.20
18		71. 14. 2	72. 47. 0	74. 20. 14	75.53.43	77. 27. 29	79. 1. 32	80. 35. 51	82.10.27
19		83. 45. 20							

Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
19		29. 46. 47	31. 21. 37	32. 56. 47	34. 32. 16	36. 8. 4	37. 44. 12	39. 20. 39	40. 57. 26
20		42. 34. 32	44. 11. 58	45. 49. 43	47. 27. 47	49. 6. 11	50. 44. 54	52. 23. 56	54. 3. 16
21	Spica ♍	55. 42. 55	57. 22. 52	59. 3. 8	60. 43. 42	62. 24. 34	64. 5. 43	65. 47. 9	67. 28. 53
22		69. 10. 54	70. 53. 12	72. 35. 45	74. 18. 33	76. 1. 37	77. 44. 56	79. 28. 29	81. 12. 16
23		82. 56. 17							
23		37. 4. 35	38. 48. 56	40. 33. 29	42. 18. 14	44. 3. 12	45. 48. 21	47. 33. 41	49. 19. 11
24		51. 4. 52	52. 50. 41	54. 36. 39	56. 22. 46	58. 9. 1	59. 55. 22	61. 41. 50	63. 28. 24
25	Antares.	65. 15. 3	67. 1. 47	68. 48. 36	70. 35. 30	72. 22. 27	74. 9. 28	75. 56. 32	77. 43. 39
26		79. 30. 47	81. 17. 56	83. 5. 6	84. 52. 16	86. 39. 27	88. 26. 38	90. 13. 49	92. 0. 59
27		93. 48. 10							
27		47. 47. 40	49. 6. 36	50. 26. 44	51. 47. 59	53. 10. 18	54. 33. 37	55. 57. 45	57. 22. 44
28	α Aquilæ.	58. 48. 28	60. 14. 51	61. 41. 48	63. 9. 18	64. 37. 17	66. 5. 40	67. 34. 26	69. 3. 33
29		70. 32. 57	72. 2. 38	73. 32. 30	75. 2. 33	76. 32. 45			
29						28. 50. 18	30. 17. 45	31. 46. 36	33. 16. 44
30	α Pegasi.	34. 48. 3	36. 20. 24	37. 53. 40	39. 27. 44	41. 2. 30	42. 37. 48	44. 13. 35	45. 49. 41
J. 1		47. 26. 0							

Configurations of the SATELLITES of JUPITER at Half an Hour past Two o' Clock in the Morning.



at Half an Hour past One o' Clock in the Morning.



Days of the Month.	Days of the Week.	Sundays, Holidays, &c.
1	F.	
2	Sa.	Visitation of B.V. Mary
3	Su.	*6th Sunday after Trinity.*
4	M.	Transl. of S. Martin.
5	Tu.	Camb. Commencement.
6	W.	
7	Th.	
8	F.	Camb. Term ends.
9	Sa.	
10	Su.	*7th Sunday after Trinity.*
11	M.	Oxford Act.
12	Tu.	
13	W.	
14	Th.	
15	F.	Swithin.
16	Sa.	Oxf. Term ends.
17	Su.	*8th Sunday after Trinity.*
18	M.	
19	Tu.	
20	W.	Margaret.
21	Th.	
22	F.	Magdalen.
23	Sa.	
24	Su.	*9th Sunday after Trinity.*
25	M.	*St. James.*
26	Tu.	St. Anne.
27	W.	
28	Th.	
29	F.	
30	Sa.	
31	Su.	*10th Sunday after Trinity.*

Phases of the Moon.

	D.	H.	M.
New Moon	6.	0.	28
First Quarter	14.	1.	34
Full Moon	21.	11.	26
Last Quarter	28.	3.	17

Other Phenomena.

D.

2. ☾ ☊ Pleiadum $10^h. 37'$.
3. ☿ 1 ad ☌ ♉ diff. Lat. $15'$.
☿ 2 ad ☌ ♉ diff. Lat. $8'$.
4. ☾ β ♉ $2^h. 35'$.
7. ☾ ☌ ♋ $16^h. 20'$.
11. ☾ υ ♌ $12^h. 20'$.
17. ☾ ♐ ♏ $2^h. 34'$.
☾ σ ♏ $11^h. 38'$.
☾ α ♏ $15^h. 15'$.
☾ τ ♏ $18^h. 23'$.
18. ☾ 43 Ophiu. $13^h. 20'$.
19. ☾ φ ♐ $21^h. 35'$.
20. ☾ σ ♐ $1^h. 25'$.
21. ☾ ♄ $16^h. 22'$.
22. ☉ enters ♌ at $1^h. 31'$.
27. ☾ ☊ ♓ $6^h. 54'$.
29. ☾ ☊ Pleiadum $16^h. 7'$.

Days of the Month.	Days of the Week.	Sun's Longitude.	Sun's Right Asc. in Time.	Sun's Declin. North.	Equat. of Time Add.	Diff.
		S. D. M. S.	H. M. S.	D. M. S.	M. S.	S.
1	F.	3. 9. 54. 17	6. 43. 6,7	23. 5. 55	3.24,3	11,5
2	Sa.	3. 10. 51. 30	6. 47. 14,7	23. 1. 27	3.35,8	11,1
3	Su.	3. 11. 48. 43	6. 51. 22,4	22. 56. 35	3.46,9	10,8
4	M.	3. 12. 45. 56	6. 55. 29,8	22. 51. 20	3.57,7	10,5
5	Tu.	3. 13. 43. 10	6. 59. 36,9	22. 45. 40	4. 8,2	10,2
6	W.	3. 14. 40. 24	7. 3. 43,7	22. 39. 36	4.18,4	9,8
7	Th.	3. 15. 37. 38	7. 7. 50,1	22. 33. 9	4.28,2	9,4
8	F.	3. 16. 34. 52	7. 11. 56,1	22. 26. 19	4.37,6	9,0
9	Sa.	3. 17. 32. 6	7. 16. 1,7	22. 19. 5	4.46,6	8,6
10	Su.	3. 18. 29. 20	7. 20. 6,9	22. 11. 28	4.55,2	8,2
11	M.	3. 19. 26. 35	7. 24. 11,7	22. 3. 29	5. 3,4	7,7
12	Tu.	3. 20. 23. 50	7. 28. 16,0	21. 55. 6	5.11,1	7,2
13	W.	3. 21. 21. 5	7. 32. 19,8	21. 46. 20	5.18,3	6,8
14	Th.	3. 22. 18. 20	7. 36. 23,1	21. 37. 13	5.25,1	6,2
15	F.	3. 23. 15. 35	7. 40. 25,9	21. 27. 43	5.31,3	5,7
16	Sa.	3. 24. 12. 50	7. 44. 28,1	21. 17. 52	5.37,0	5,1
17	Su.	3. 25. 10. 5	7. 48. 29,9	21. 7. 39	5.42,1	4,6
18	M.	3. 26. 7. 20	7. 52. 31,0	20. 57. 5	5.46,7	4,0
19	Tu.	3. 27. 4. 35	7. 56. 31,5	20. 46. 9	5.50,7	3,4
20	W.	3. 28. 1. 51	8. 0. 31,5	20. 34. 52	5.54,1	2,9
21	Th.	3. 28. 59. 7	8. 4. 31,0	20. 23. 15	5.57,0	2,3
22	F.	3. 29. 56. 24	8. 8. 29,9	20. 11. 17	5.59,3	1,8
23	Sa.	4. 0. 53. 42	8. 12. 28,3	19. 58. 59	6. 1,1	1,3
24	Su.	4. 1. 51. 1	8. 16. 26,1	19. 46. 21	6. 2,5	0,7
25	M.	4. 2. 48. 21	8. 20. 23,3	19. 33. 23	6. 3,1	0,1
26	Tu.	4. 3. 45. 41	8. 24. 19,9	19. 20. 6	6. 3,2	0,5
27	W.	4. 4. 43. 3	8. 28. 15,9	19. 6. 29	6. 2,7	1,1
28	Th.	4. 5. 40. 26	8. 32. 11,4	18. 52. 33	6. 1,6	1,7
29	F.	4. 6. 37. 50	8. 36. 6,3	18. 38. 19	5.59,9	2,3
30	Sa.	4. 7. 35. 15	8. 40. 0,6	18. 23. 46	5.57,6	2,8
31	Su.	4. 8. 32. 42	8. 43. 54,4	18. 8. 54	5.54,8	

Days.	Semidiameter of the Sun.	Time of D° passing the Meridian.	Hourly Motion of the Sun.	Logarithm of the Sun's Distance.	Place of the Moon's Node.
	M. S.	M. S.	M. S.		S. D. M.
1	15. 46,9	1. 8,6	2. 23,0	0,007246	10. 13. 43
7	15. 47,0	1. 8,3	2. 23,0	0,007210	10. 13. 24
13	15. 47,2	1. 8,0	2. 23,1	0,007077	10. 13. 5
19	15. 47,6	1. 7,6	2. 23,2	0,006865	10. 12. 46
25	15. 48,2	1. 7,1	2. 23,4	0,006606	10. 12. 27

Eclipses of the Satellites of JUPITER.

I. Satellite. Immerſions.		II. Satellite. Immerſions.		III. Satellite.		
Days	H. M. S.	Days	H. M. S.	Days.	H. M. S.	
1	9. 56. 37	1	7. 17. 33	6	11. 38. 28	I
3	4. 24. 41	4	20. 35. 37	6	14*14. 18	E
4	22. 52. 46	8	9. 53. 47	13	15. 38. 20	I
6	17. 20. 53	11	23. 12. 2	13	18. 12. 50	E
8	11. 49. 2	15	12*30. 24	20	19. 38. 40	I
10	6. 17. 12	19	1. 48. 54	20	22. 11. 49	E
12	0. 45. 21	22	15. 7. 33	27	23. 39. 33	I
13	19. 13. 33	26	4. 26. 19	28	2. 11. 21	E
15	13*41. 49	29	17. 45. 13			
17	8. 10. 6			IV. Satellite.		
19	2. 38. 24					
20	21. 6. 43			4	5. 45. 51	I
22	15. 35. 4			4	8. 25. 46	E
24	10. 3. 27			21	0. 3. 20	I
26	4. 31. 52			21	2. 32. 34	E
27	23. 0. 19					
29	17. 28. 48					
31	11*57. 19					

Days.	Heliocentric Longitude.	Heliocentric Latitude.	Geocentric Longitude.	Geocentric Latitude.	Declination.	Passage over Merid.
	S. D. M.	D. M.	S. D. M.	D. M.	D. M.	H. M.
MERCURY. Sup. ☌ 17d. 7h.						
1	0. 16. 57	3. 23 S	2. 22. 33	1. 0 S	22. 15 N	22. 48
4	1. 3. 42	1. 28 S	2. 27. 57	0. 24 S	23. 3	23. 0
7	1. 21. 38	0. 43 N	3. 3. 46	0. 11 N	23. 36	23. 13
10	2. 10. 21	2. 55	3. 9. 55	0. 42	23. 48	23. 28
13	2. 29. 17	4. 50	3. 16. 17	1. 8	23. 36	23. 44
16	3. 17. 45	6. 11	3. 22. 42	1. 28	23. 0	0. 0
19	4. 5. 13	6. 53	3. 29. 3	1. 41	22. 1	0. 10
22	4. 21. 20	6. 58	4. 5. 16	1. 47	20. 42	0. 24
25	5. 6. 1	6. 34	4. 11. 17	1. 46	19. 7	0. 37
28	5. 19. 20	5. 51	4. 17. 3	1. 41	17. 21	0. 48
31	6. 1. 26	4. 54	4. 22. 36	1. 30	15. 25	0. 58
VENUS.						
1	10. 0. 8	2. 25 S	2. 2. 55	4. 11 S	16. 39 N	21. 21
7	10. 9. 37	2. 46	2. 5. 35	4. 23	16. 56	21. 8
13	10. 19. 6	3. 3	2. 9. 6	4. 25	17. 28	20. 59
19	10. 28. 36	3. 15	2. 13. 16	4. 18	18. 9	20. 52
25	11. 8. 6	3. 22	2. 17. 58	4. 7	18. 49	20. 48
MARS.						
1	11. 8. 9	1. 44 S	0. 23. 46	1. 59 S	7. 23 N	18. 47
7	11. 11. 58	1. 41	0. 27. 54	1. 59	8. 53	18. 37
13	11. 15. 45	1. 38	1. 1. 57	1. 59	10. 19	18. 28
19	11. 19. 33	1. 35	1. 5. 56	1. 58	11. 40	18. 19
25	11. 23. 19	1. 31	1. 9. 50	1. 56	12. 56	18. 11
JUPITER. □ 4d. 13½h.						
1	0. 1. 8	1. 18 S	0. 12. 58	1. 19 S	3. 55 N	18. 4
7	0. 1. 41	1. 19	0. 13. 32	1. 21	4. 6	17. 42
13	0. 2. 14	1. 19	0. 13. 59	1. 23	4. 15	17. 19
19	0. 2. 47	1. 19	0. 14. 20	1. 24	4. 22	16. 56
25	0. 3. 20	1. 19	0. 14. 34	1. 26	4. 26	16. 33
SATURN. ☍ 24d. 8¾h.						
1	10. 1. 30	0. 25 S	10. 3. 52	0. 28 S	19. 45 S	13. 40
7	10. 1. 41	0. 26	10. 3. 28	0. 29	19. 52	13. 13
13	10. 1. 52	0. 26	10. 3. 2	0. 29	19. 59	12. 47
19	10. 2. 2	0. 27	10. 2. 36	0. 30	20. 6	12. 21
25	10. 2. 13	0. 27	10. 2. 9	0. 30	20. 12	11. 56

Days of the Month.	Days of the Week.	Moon's Longitude at Noon.	Moon's Longitude at Midnight.	Moon's Latitude at Noon.	Moon's Latitude at Midn.
		S. D. M. S.	S. D. M. S.	D. M. S.	D. M. S.
1	F.	1. 7. 0. 58	1. 13. 58. 56	5. 10. 51 N	5. 12. 11 N
2	Sa.	1. 20. 54. 39	1. 27. 47. 46	5. 8. 57	5. 1. 16
3	*Su.*	2. 4. 37. 58	2. 11. 25. 5	4. 49. 20	4. 33. 24
4	M.	2. 18. 8. 51	2. 24. 49. 5	4. 13. 48	3. 50. 53
5	Tu.	3. 1. 25. 30	3. 7. 58. 8	3. 25. 2	2. 56. 43
6	W.	3. 14. 26. 45	3. 20. 51. 25	2. 26. 22	1. 54. 25
7	Th.	3. 27. 12. 7	4. 3. 28. 57	1. 21. 21	0. 47. 36 N
8	F.	4. 9. 42. 2	4. 15. 51. 36	0. 13. 34 N	0. 20. 19 S
9	Sa.	4. 21. 57. 54	4. 28. 1. 14	0. 53. 42 S	1. 26. 13
10	*Su.*	5. 4. 2. 2	5. 10. 0. 39	1. 57. 34	2. 27. 27
11	M.	5. 15. 57. 36	5. 21. 53. 25	2. 55. 37	3. 21. 46
12	Tu.	5. 27. 48. 34	6. 3. 43. 42	3. 45. 46	4. 7. 17
13	W.	6. 9. 39. 23	6. 15. 36. 11	4. 26. 15	4. 42. 22
14	Th.	6. 21. 34. 44	6. 27. 35. 38	4. 55. 32	5. 5. 33
15	F.	7. 3. 39. 25	7. 9. 46. 44	5. 12. 16	5. 15. 39
16	Sa.	7. 15. 58. 1	7. 22. 13. 48	5. 15. 9	5. 11. 3
17	*Su.*	7. 28. 34. 28	8. 5. 0. 23	5. 3. 8	4. 51. 20
18	M.	8. 11. 31. 48	8. 18. 8. 57	4. 35. 35	4. 15. 59
19	Tu.	8. 24. 51. 48	9. 1. 40. 23	3. 52. 33	3. 25. 32
20	W.	9. 8. 34. 29	9. 15. 33. 49	2. 55. 9	2. 21. 45
21	Th.	9. 22. 38. 2	9. 29. 46. 34	1. 45. 47	1. 7. 46 S
22	F.	10. 6. 58. 46	10. 14. 14. 1	0. 28. 20 S	0. 11. 51 N
23	Sa.	10. 21. 31. 28	10. 28. 50. 26	0. 52. 3 N	1. 31. 33
24	*Su.*	11. 6. 10. 5	11. 13. 29. 39	2. 9. 36	2. 45. 30
25	M.	11. 20. 48. 26	11. 28. 5. 49	3. 18. 38	3. 48. 24
26	Tu.	0. 5. 21. 9	0. 12. 34. 1	4. 14. 23	4. 36. 9
27	W.	0. 19. 43. 55	0. 26. 50. 33	4. 53. 28	5. 6. 7
28	Th.	1. 3. 53. 40	1. 10. 53. 1	5. 14. 2	5. 17. 13
29	F.	1. 17. 48. 35	1. 24. 40. 9	5. 15. 45	5. 9. 47
30	Sa.	2. 1. 27. 46	2. 8. 11. 25	4. 59. 32	4. 45. 15
31	*Su.*	2. 14. 51. 6	2. 21. 27. 0	4. 27. 12	4. 5. 47

Days of the Month.	Days of the Week.	☽'s Age.	☽'s Passage over Merid.	☽'s Right Ascen. at Noon.	☽'s Right Asc. at Midn.	☽'s Declination at Noon.	☽'s Declination at Midn.
			H. M.	D. M.	D. M.	D. M.	D. M.
1	F.	26	20. 13	32. 53	39. 51	18. 46 N	21. 2 N
2	Sa.	27	21. 9	47. 0	54. 17	22. 58	24. 35
3	*Su.*	28	22. 7	61. 41	69. 10	25. 50	26. 41
4	M.	29	23. 4	76. 41	84. 11	27. 9	27. 13
5	Tu.	30	23. 59	91. 36	98. 52	26. 53	26. 10
6	W.	1	♂	105. 59	112. 52	25. 7	23. 44
7	Th.	2	0. 53	119. 33	126. 0	22. 5	20. 10
8	F.	3	1. 40	132. 13	138. 13	18. 4	15. 47
9	Sa.	4	2. 24	144. 3	149. 42	13. 21	10. 50
10	*Su.*	5	3. 6	155. 13	160. 37	8. 13	5. 33
11	M.	6	3. 46	165. 57	171. 14	2. 51 N	0. 8 N
12	Tu.	7	4. 25	176. 30	181. 47	2. 35 S	5. 16 S
13	W.	8	5. 5	187. 7	192. 31	7. 54	10. 29
14	Th.	9	5. 46	198. 3	203. 43	12. 59	15. 23
15	F.	10	6. 30	209. 33	215. 36	17. 38	19. 45
16	Sa.	11	7. 18	221. 52	228. 22	21. 40	23. 22
17	*Su.*	12	8. 10	235. 6	242. 5	24. 48	25. 57
18	M.	13	9. 6	249. 17	256. 41	26. 45	27. 12
19	Tu.	14	10. 5	264. 14	271. 52	27. 15	26. 53
20	W.	15	11. 4	279. 33	287. 12	26. 6	24. 54
21	Th.	16	12. 2	294. 46	302. 13	23. 18	21. 26
22	F.	17	12. 58	309. 31	316. 39	19. 1	16. 23
23	Sa.	18	13. 51	323. 37	330. 26	13. 32	10. 28
24	*Su.*	19	14. 42	337. 8	343. 44	7. 15	3. 57 S
25	M.	20	15. 32	350. 15	356. 44	0. 35 S	2. 44 N
26	Tu.	21	16. 22	3. 13	9. 44	6. 1 N	9. 12
27	W.	22	17. 13	16. 19	23. 0	12. 15	15. 6
28	Th.	23	18. 6	29. 47	36. 42	17. 45	20. 7
29	F.	24	19. 2	43. 45	50. 56	22. 12	23. 58
30	Sa.	25	19. 59	58. 13	65. 35	25. 22	26. 24
31	*Su.*	26	20. 57	73. 0	80. 24	27. 2	27. 17

Days of the Month.	Days of the Week.	Semid^r. ☽ at Noon.	Semid^r. ☽ at Midnight.	Hor. Par. ☽ at Noon.	Hor. Par. ☽ at Midnight.	Proport. Logar. at Noon.	Proport. Logar. at Midn.
		M. S.	M. S.	M. S.	M. S.		
1	F.	16. 2	15. 59	58. 51	58. 41	4855	4867
2	Sa.	15. 56	15. 53	58. 29	58. 17	4882	4897
3	*Su.*	15. 49	15. 45	58. 3	57. 49	4915	4932
4	M.	15. 41	15. 37	57. 34	57. 19	4951	4970
5	Tu.	15. 33	15. 28	57. 3	56. 47	4990	5010
6	W.	15. 24	15. 20	56. 31	56. 15	5031	5051
7	Th.	15. 15	15. 11	55. 59	55. 43	5072	5093
8	F.	15. 7	15. 3	55. 27	55. 13	5114	5132
9	Sa.	14. 59	14. 56	55. 0	54. 49	5149	5163
10	*Su.*	14. 53	14. 51	54. 39	54. 31	5177	5187
11	M.	14. 50	14. 49	54. 25	54. 21	5195	5201
12	Tu.	14. 48	14. 48	54. 20	54. 21	5202	5201
13	W.	14. 49	14. 51	54. 24	54. 30	5197	5189
14	Th.	14. 53	14. 56	54. 38	54. 49	5178	5163
15	F.	15. 0	15. 4	55. 3	55. 19	5145	5124
16	Sa.	15. 9	15. 15	55. 37	55. 57	5100	5075
17	*Su.*	15. 21	15. 27	56. 18	56. 41	5048	5018
18	M.	15. 33	15. 40	57. 5	57. 30	4987	4956
19	Tu.	15. 47	15. 54	57. 55	58. 20	4924	4893
20	W.	16. 0	16. 6	58. 44	59. 5	4864	4838
21	Th.	16. 11	16. 16	59. 25	59. 43	4813	4792
22	F.	16. 20	16. 24	59. 58	60. 10	4773	4759
23	Sa.	16. 26	16. 27	60. 18	60. 23	4750	4743
24	*Su.*	16. 27	16. 27	60. 24	60. 23	4742	4743
25	M.	16. 26	16. 24	60. 18	60. 10	4750	4759
26	Tu.	16. 21	16. 18	60. 0	59. 49	4771	4784
27	W.	16. 14	16. 10	59. 35	59. 21	4801	4819
28	Th.	16. 6	16. 2	59. 5	58. 49	4838	4858
29	F.	15. 57	15. 52	58. 32	58. 15	4878	4900
30	Sa.	15. 48	15. 43	57. 58	57. 41	4921	4942
31	*Su.*	15. 38	15. 34	57. 24	57. 8	4964	4984

Distances of ☽'s Center from Sun, and from Stars east of her.

Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S	D. M. S.	D. M. S.	D. M. S.
1	The Sun.	63. 0. 30	61. 23. 32	59. 46. 40	58. 9. 57	56. 33. 22	54. 56. 55	53. 20. 37	51. 44. 28
2		50. 8. 28	48. 32. 38	46. 56. 59	45. 21. 30	43. 46. 12	42. 11. 4	40. 36. 7	39. 1. 21
7						77. 24. 36	75. 50. 45	74. 17. 7	72. 43. 42
8		71. 10. 31	69. 37. 33	68. 4. 48	66. 32. 15	64. 59. 55	63. 27. 48	61. 55. 54	60. 24. 12
9	Spica ♍	58. 52. 42	57. 21. 24	55. 50. 18	54. 19. 23	52. 48. 39	51. 18. 6	49. 47. 43	48. 17. 30
10		46. 47. 27	45. 17. 34	43. 47. 50	42. 18. 15	40. 48. 48	39. 19. 30	37. 50. 19	36. 21. 16
11		34. 52. 20	33. 23. 31	31. 54. 48	30. 26. 12	28. 57. 42	27. 29. 18	26. 1. 1	24. 32. 49
12		23. 4. 44							
12		68. 45. 56	67. 17. 10	65. 48. 26	64. 19. 42	62. 50. 58	61. 22. 13	59. 53. 27	58. 24. 39
13	Antares.	56. 55. 48	55. 26. 54	53. 57. 56	52. 28. 53	50. 59. 46	49. 30. 33	48. 1. 14	46. 31. 48
14		45. 2. 15	43. 32. 34	42. 2. 44	40. 32. 45	39. 2. 37	37. 32. 18	36. 1. 48	34. 31. 7
15		33. 0. 14	31. 29. 8	29. 57. 48	28. 26. 15	26. 54. 27			
15						83. 2. 24	81. 43. 15	80. 23. 59	79. 4. 37
16	α Aquilæ.	77. 45. 9	76. 25. 34	75. 5. 54	73. 46. 10	72. 26. 23	71. 6. 34	69. 46. 43	68. 26. 54
17		67. 7. 7	65. 47. 23	64. 27. 45	63. 8. 14	61. 48. 51			
17						84. 22. 54	82. 53. 29	81. 23. 46	79. 53. 47
18	Fomal-	78. 23. 30	76. 52. 58	75. 22. 12	73. 51. 13	72. 20. 1	70. 48. 37	69. 17. 3	67. 45. 20
19	haut.	66. 13. 28	64. 41. 28	63. 9. 23	61. 37. 16	60. 5. 8	58. 33. 0	57. 0. 56	55. 28. 57
20		53. 57. 7							

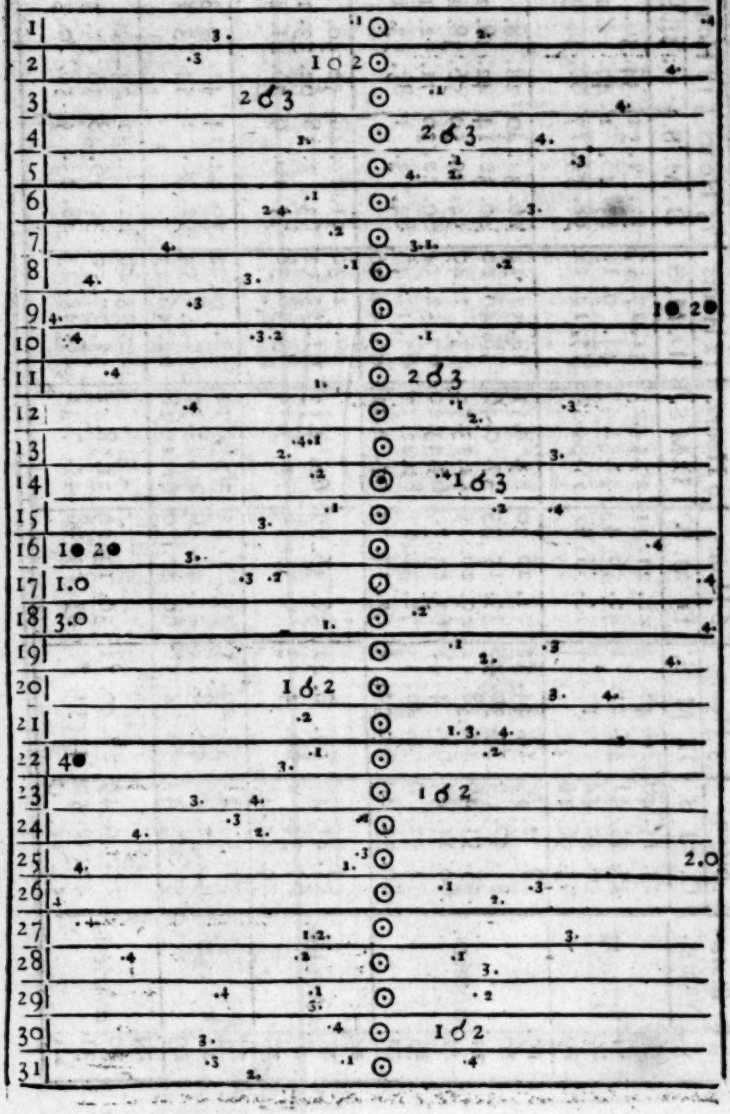
Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
20		74. 1. 35	72. 21. 31	70. 41. 12	69. 0. 39	67. 19. 54	65. 38. 57	63. 57. 51	62. 16. 37
21	α Pegasi.	60. 35. 16	58. 53. 49	57. 12. 19	55. 30. 48	53. 49. 18	52. 7. 52	50. 26. 34	48. 45. 25
22		47. 4. 26							
22		87. 48. 19	85. 59. 40	84. 10. 51	82. 21. 52	80. 32. 44	78. 43. 28	76. 54. 5	75. 4. 36
23	α Arietis.	73. 15. 2	71. 25. 22	69. 35. 38	67. 45. 52	65. 56. 4	64. 6. 15	62. 16. 27	60. 26. 40
24		58. 36. 55	56. 47. 13	54. 57. 36	53. 8. 3	51. 18. 35	49. 29. 13	47. 39. 58	45. 50. 51
25		44. 1. 52							
25		76. 24. 5	74. 36. 21	72. 48. 48	71. 1. 25	69. 14. 14	67. 27. 15	65. 40. 30	63. 53. 58
26	Aldebaran.	62. 7. 40	60. 21. 37	58. 35. 50	56. 50. 20	55. 5. 8	53. 20. 15	51. 35. 41	49. 51. 29
27		48. 7. 38	46. 24. 10	44. 41. 8	42. 58. 33	41. 16. 25	39. 34. 47	37. 53. 43	36. 13. 12
28		34. 33. 16							
25									120. 0. 47
26		118. 19. 26	116. 38. 16	114. 57. 18	113. 16. 32	111. 35. 57	109. 55. 35	108. 15. 25	106. 35. 29
27		104. 55. 46	103. 16. 17	101. 37. 1	99. 57. 59	98. 19. 11	96. 40. 37	95. 2. 17	93. 24. 12
28	The Sun.	91. 46. 21	90. 8. 44	88. 31. 21	86. 54. 13	85. 17. 19	83. 40. 40	82. 4. 15	80. 28. 4
29		78. 52. 8	77. 16. 26	75. 40. 59	74. 5. 46	72. 30. 48	70. 56. 4	69. 21. 33	67 47. 17
30		66. 13. 15	64. 39. 27	63. 5. 53	61. 32. 32	59. 59. 25	58. 26. 32	56. 53. 52	55. 21. 25
31		53. 49. 12	52. 17. 12	50. 45. 25	49. 13. 51	47. 42. 29	46. 11. 20	44. 40. 23	43. 9. 38
A. 1		41. 39. 6							

Distances of ☽'s Center from Sun, and from Stars west of her.

Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
1		47. 25. 58	49. 2. 44	50. 39. 42	52. 16. 52	53. 54. 13	55. 31. 43	57. 9. 20	58. 47. 2
2	α Pegasi.	60. 24. 48	62. 2. 36	63. 40. 25	65. 18. 13	66. 55. 59			
2						23. 26. 57	25. 7. 17	26. 47. 41	28. 28. 8
3	α Arietis.	30. 8. 36	31. 49. 2	33. 29. 25	35. 9. 44	36. 49. 57	38. 30. 3	40. 10. 1	41. 49. 51
4		43. 29. 34	45. 9. 6	46. 48. 29	48. 27. 43	50. 6. 47			
9						40. 1. 49	41. 25. 16	42. 48. 33	44. 11. 41
10		45. 34. 40	46. 57. 31	48. 20. 14	49. 42. 48	51. 5. 15	52. 27. 35	53. 49. 49	55. 11. 57
11		56. 33. 59	57. 55. 56	59. 17. 49	60. 39. 38	62. 1. 22	63. 23. 2	64. 44. 39	66. 6. 14
12	The Sun.	67. 27. 48	68. 49. 21	70. 10. 54	71. 32. 27	72. 54. 0	74. 15. 34	75. 37. 9	76. 58. 46
13		78. 20. 26	79. 42. 9	81. 3. 56	82. 25. 47	83. 47. 44	85. 9. 47	86. 31. 57	87. 54. 13
14		89. 16. 35	90. 39. 6	92. 1. 46	93. 24. 35	94. 47. 34	96. 10. 42	97. 34. 1	98. 57. 31
15		100. 21. 14	101. 45. 10	103. 9. 20	104. 33. 44	105. 58. 22	107. 23. 14	108. 48. 22	110. 13. 45
16		111. 39. 25	113. 5. 22	114. 31. 37	115. 58. 10	117. 25. 1	118. 52. 10	120. 19. 39	
14		54. 55. 40	56. 25. 19	57. 55. 6	59. 25. 1	60. 55. 6	62. 25. 21	63. 55. 47	65. 26. 25
15	Regulus.	66. 57. 15	68. 28. 18	69. 59. 35	71. 31. 5	73. 2. 50	74. 34. 50	76. 7. 5	77. 39. 36
16		79. 12. 22							

Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
16	Spica ♍	25. 15. 48	26. 48. 19	28. 21. 11	29. 54. 23	31. 27. 57	33. 1. 51	34. 36. 6	36. 10. 43
17		37. 45. 41	39. 21. 1	40. 56. 43	42. 32. 47	44. 9. 13	45. 46. 2	47. 23. 13	49. 0. 47
18		50. 38. 44	52. 17. 4	53. 55. 47	55. 34. 54	57. 14. 24	58. 54. 17	60. 34. 33	62. 15. 12
19		63. 56. 16							
19	Antares.	18. 2. 56	19. 44. 32	21. 26. 30	23. 8. 51	24. 51. 34	26. 34. 40	28. 18. 7	30. 1. 56
20		31. 46. 7	33. 30. 40	35. 15. 33	37. 0. 46	38. 46. 20	40. 32. 14	42. 18. 26	44. 4. 57
21		45. 51. 46	47. 38. 52	49. 26. 15	51. 13. 54	53. 1. 49	54. 49. 59	56. 38. 22	58. 26. 58
22		60. 15. 47	62. 4. 48	63. 53. 59	65. 43. 20	67. 32. 51	69. 22. 30	71. 12. 17	73. 2. 10
23		74. 52. 9	76. 42. 13	78. 32. 21	80. 22. 32	82. 12. 46	84. 3. 1	85. 53. 17	87. 43. 33
24		89. 33. 49	91. 24. 3	93. 14. 14	95. 4. 22	96. 54. 26			
24						50. 2. 30	51. 25. 48	52. 50. 8	54. 15. 27
25	ζ Aquilæ.	55. 41. 40	57. 8. 42	58. 36. 27	60. 4. 53	61. 33. 52	63. 3. 18	64. 33. 10	66. 3. 26
26		67. 34. 2	69. 4. 53	70. 35. 58	72. 7. 14	73. 38. 38	75. 10. 9	76. 41. 42	78. 13. 14
27		79. 44. 47							
27	α Pegasi.	31. 57. 22	33. 29. 5	35. 1. 42	36. 35. 11	38. 9. 22	39. 44. 14	41. 19. 38	42. 55. 30
28		44. 31. 46	46. 8. 14	47. 44. 56	49. 21. 50	50. 58. 54	52. 36. 2	54. 13. 14	55. 50. 28
29		57. 27. 44	59. 4. 58	60. 42. 10	62. 19. 18	63. 56. 22			
29						20. 23. 26	22. 2. 42	23. 42. 2	25. 21 25
30	α Arietis.	27. 0. 49	28. 40. 11	30. 19. 29	31. 58. 43	33. 37. 50	35. 16. 48	36. 55. 38	38. 34. 19
31		40. 12. 52	41. 51. 15	43. 29. 28	45. 7. 31	46. 45. 23	48. 23. 5	50. 0. 36	51. 37. 57
1		53. 15. 6							

Configurations of the SATELLITES of JUPITER at Two o'Clock in the Morning.



Days of the Month.	Days of the Week.	Sundays, Holidays, &c.
1	M.	Lammas-Day.
2	Tu.	
3	W.	
4	Th.	
5	F.	
6	Sa.	Transfig. of our Lord.
7	*Su.*	*11th Sunday after Trinity.*
8	M.	[Name of Jesus
9	Tu.	
10	W.	St. Lawrence.
11	Th.	*Prs. of Brunswick born.*
12	F.	*Pr. of Wales born* 1762.
13	Sa.	
14	*Su.*	*12th Sunday after Trinity.*
15	M.	
16	Tu.	*Pr. Frederick born.*
17	W.	
18	Th.	
19	F.	
20	Sa.	
21	*Su.*	*13th Sunday after Trinity.*
22	M.	[*Pr. W. Henry born.*
23	Tu.	
24	W.	St. *Bartholomew.*
25	Th.	
26	F.	
27	Sa.	[gustine.
28	*Su.*	*14th Su. after Tr.* St. Au-
29	M.	Beheading of St. John
30	Tu.	[Baptist.
31	W.	

Phases of the Moon.

	D.	H.	M.
New Moon —	4.	13.	32
First Quarter —	12.	17.	30
Full Moon —	19.	19.	47
Last Quarter —	26.	10.	9

Other Phenomena.

D.

1. ☾ ☌ ♊ $16^h.\ 40'$.
2. ☾ ☍ ♊ $18^h.\ 34'$.
3. ☿ Stationary.
   ☾ ☌ ♎ $23^h.\ 30'$.
4. ☉ eclipsed, invisible.
6. ☿ ☌ ♌ diff. Lat. $47'$.
7. ☾ ☌ ♌ $19^h.\ 38'$.
11. ♀ ☌ ♊ diff. Lat. $3'$.
13. ☾ ☍ ♏ $11^h.\ 16'$.
14. ☾ ☌ ♏ $0^h.\ 14'$.
    ☾ ☍ ♏ $3^h.\ 24'$.
    ☾ 43 Ophiuchi $22^h.\ 31'$.
16. ☿ ☍ ♌ diff. Lat. $9'$.
    ☾ ☌ ♐ Im. $6^h.\ 41'\frac{1}{2}$.
    $*3'\frac{1}{2}$ N. of ☽'s cent.
    Em. $7^h.\ 56'$. $*2'\frac{1}{2}$ North.
    ☾ ☌ ♐ Im. $12^h.\ 11'\frac{1}{2}$.
    $*14'\frac{1}{4}$ N. of ☽'s cent.
    Em. $12^h.\ 52'\frac{1}{2}$. $*10'$ North.
17. ☾ ☌ ♑ $23^h.\ 27'$.
19. ♀ ☍ ♊ diff. Lat. $30'$.
20. ☾ ☌ ♒ $0^h.\ 6'$.
22. ☉ enters ♍ at $7^h.\ 52'$.
23. ☾ ☍ ♓ $14^h.\ 4'$.
25. ☾ ☍ Pleiadum $21^h.\ 59'$.
27. ☾ ☌ ♉ $14^h.\ 10'$.
28. ☾ ☍ ♊ $22^h.\ 19'$.
30. ☾ ☍ ♊ $0^h.\ 25'$.
31. ☾ ☌ ♋ $5^h.\ 40'$.

Days of the Month.	Days of the Week.	Sun's Longitude.	Sun's Right Asc. in Time.	Sun's Declin. North.	Equat. of Time. Add.	Diff.
		S. D. M. S.	H. M. S.	D. M. S.	M. S.	S.
1	M.	4. 9. 30. 9	8.47.47,5	17. 53. 47	5. 51,5	3,9
2	Tu.	4. 10. 27. 39	8.51.40,1	17. 38. 20	5. 47,6	4,6
3	W.	4. 11. 25. 9	8.55.32,1	17. 22. 36	5. 43,0	5,1
4	Th.	4. 12. 22. 40	8.59.23,5	17. 6. 35	5. 37,9	5,7
5	F.	4. 13. 20. 13	9. 3.14,3	16. 50. 17	5. 32,2	6,4
6	Sa.	4. 14. 17. 47	9. 7. 4,5	16. 33. 43	5. 25,8	6,9
7	*Su.*	4. 15. 15. 22	9.10.54,1	16. 16. 52	5. 18,9	7,5
8	M.	4. 16. 12. 58	9.14.43,2	15. 59. 46	5. 11,4	8,1
9	Tu.	4. 17. 10. 34	9.18.31,6	15. 42. 25	5. 3,3	8,8
10	W.	4. 18. 8. 11	9.22.19,4	15. 24. 49	4. 54,5	9,3
11	Th.	4. 19. 5. 49	9.26. 6,6	15. 6. 58	4. 45,2	9,9
12	F.	4. 20. 3. 28	9.29.53,3	14. 48. 52	4. 35,3	10,5
13	Sa.	4. 21. 1. 8	9.33.39,4	14. 30. 32	4. 24,8	11,0
14	*Su.*	4. 21. 58. 50	9.37.24,9	14. 11. 58	4. 13,8	11,5
15	M.	4. 22. 56. 33	9.41. 9,9	13. 53. 11	4. 2,3	12,1
16	Tu.	4. 23. 54. 16	9.44.54,3	13. 34. 11	3. 50,2	12,6
17	W.	4. 24. 52. 0	9.48.38,2	13. 14. 58	3. 37,6	13,1
18	Th.	4. 25. 49. 45	9.52.21,6	12. 55. 33	3. 24,5	13,6
19	F.	4. 26. 47. 32	9.56. 4,5	12. 35. 55	3. 10,9	14,1
20	Sa.	4. 27. 45. 20	9.59.46,8	12. 16. 5	2. 56,8	14,7
21	*Su.*	4. 28. 43. 10	10. 3 28,7	11. 56. 3	2. 42,1	15,1
22	M.	4. 29. 41. 1	10. 7.10,2	11. 35. 50	2. 27,0	15,4
23	Tu.	5. 0. 38. 54	10.10.51,2	11. 15. 26	2. 11,6	15,9
24	W.	5. 1. 36. 49	10.14.31,8	10. 54. 51	1. 55,7	16,3
25	Th.	5. 2. 34. 46	10.18.12,1	10. 34. 6	1. 39,4	16,7
26	F.	5. 3. 32. 44	10.21.51,9	10. 13. 10	1. 22,7	17,0
27	Sa.	5. 4. 30. 44	10.25.31,4	9. 52. 5	1. 5,7	17,3
28	*Su.*	5. 5. 28. 46	10.29.10,6	9. 30. 50	0. 48,4	17,6
29	M.	5. 6. 26. 51	10.32.49,5	9. 9. 25	0. 30,8	17,9
30	Tu.	5. 7. 24. 58	10.36.28,1	8. 47. 52	0. 12,9	18,3
31	W.	5. 8. 23. 6	10.40. 6,3	8. 26. 10	Sub.5,4	

Days.	Semidiameter of the Sun.	Time of D° passing the Meridian.	Hourly Motion of the Sun.	Logarithm of the Sun's Distance.	Place of the Moon's Node.
	M. S.	M. S.	M. S.		S. D. M.
1	15. 49,0	1. 6,5	2. 23,6	0. 006236	10. 12. 4
7	15. 49,9	1. 6,0	2. 23,9	0. 005833	10. 11. 45
13	15. 51,0	1. 5,5	2. 24,3	0. 005349	10. 11. 26
19	15. 52,2	1. 5,0	2. 24,6	0. 004810	10. 11. 7
25	15. 53,4	1. 4,7	2. 25,0	0. 004246	10. 10. 48

Eclipses of the Satellites of JUPITER.

I. Satellite. Immersions.		II. Satellite. Immersions.		III. Satellite.		IV. Satellite.	
Days	H. M. S.	Days	H. M. S.	Days	H. M. S.		
2	6. 25. 47	2	7. 4. 14	4	3. 40. 59 I.	6	18. 23. 56 I.
4	0. 54. 28	5	20. 23. 22	4	6. 11. 25 E.	6	20. 42. 5 E.
5	19. 23. 6	9	9. 42. 36	11	7. 42. 56 I.	*23	12. 48. 3 I.
*7	13. 51. 45	12	23. 1. 57	*11	10. 12. 0 E.	*23	14. 53. 43 E.
9	8. 20. 24	*16	12. 21. 28	*18	11. 45. 26 I.		
11	2. 49. 6	20	1. 41. 6	*18	14. 13. 8 E.		
12	21. 17. 51	*23	15. 0. 43	*25	15. 48. 30 I.		
*14	15. 46. 40	27	4. 20. 27	25	18. 14. 50 E.		
*16	10. 15. 28	30	17. 40. 19				
18	4. 44. 17						
19	23. 13. 10						
21	17. 42. 4						
*23	12. 11. 0						
25	6. 39. 58						
27	1. 8. 58						
28	19. 38. 1						
*30	14. 7. 3						

Days.	Heliocentric Longitude.	Heliocentric Latitude.	Geocentric Longitude.	Geocentric Latitude.	Declination.	Passage over Merid.
	S. D. M.	D. M.	S. D. M.	D. M.	D. M.	H. M.
MERCURY. Gr. Elong. 28d.						
1	6. 5. 14	4. 34 N	4. 24. 24	1. 25 N	14. 45 N	1. 1
4	6. 16. 2	3. 29	4. 29. 37	1. 9	12. 42	1. 9
7	6. 26. 4	2. 22	5. 4. 36	0. 50	10. 37	1. 16
10	7. 5. 30	1. 15	5. 9. 21	0. 28	8. 30	1. 22
13	7. 14. 28	0. 10 N	5. 13. 52	0. 4 N	6. 25	1. 27
16	7. 23. 5	0. 54 S	5. 18. 9	0. 22 S	4. 21	1. 31
19	8. 1. 29	1. 54	5. 22. 11	0. 49	2. 21	1. 34
22	8. 9. 45	2. 51	5. 25. 57	1. 17	0. 26 N	1. 36
25	8. 17. 59	3. 45	5. 29. 26	1. 45	1. 23 S	1. 37
28	8. 26. 17	4. 33	6. 2. 35	2. 13	3. 4	1. 37
31	9. 4. 43	5. 17	6. 5. 20	2. 41	4. 35	1. 36
VENUS. Gr. Elong. 7d.						
1	11. 19. 13	3. 23 S	2. 24. 1	3. 46 S	19. 34 N	20. 47
7	11. 28. 45	3. 17	2. 29. 33	3. 25	20. 3	20. 48
13	0. 8. 17	3. 6	3. 5. 22	3. 2	20. 20	20. 50
19	0. 17. 51	2. 50	3. 11. 25	2. 36	20. 23	20. 53
25	0. 27. 25	2. 30	3. 17. 39	2. 9	20. 10	20. 57
MARS. □ 14d. 1½h						
1	11. 27 42	1. 25 S	1. 14. 14	1. 54 S	14. 19 N	18. 0
7	0. 1. 26	1. 21	1. 17. 55	1. 52	15. 25	17. 51
13	0. 5. 9	1. 16	1. 21. 26	1. 48	16. 24	17. 43
19	0. 8. 50	1. 10	1. 24. 50	1. 45	17. 18	17. 34
25	0. 12. 30	1. 4	1. 28. 4	1. 40	18. 8	17. 25
JUPITER.						
1	0. 3. 58	1. 19 S	0. 14. 42	1. 28 S	4. 27 N	16. 6
7	0. 4. 31	1. 19	0. 14. 41	1. 30	4. 25	15. 43
13	0. 5. 4	1. 19	0. 14. 33	1. 31	4. 20	15. 20
19	0. 5. 37	1. 19	0. 14. 17	1. 33	4. 13	14. 56
25	0. 6. 10	1. 19	0. 13. 55	1. 34	4. 3	14. 33
SATURN.						
1	10. 2. 26	0. 28 S	10. 1. 39	0. 31 S	20. 19 S	11. 26
7	10. 2. 37	0. 28	10. 1. 12	0. 31	20. 25	11. 1
13	10. 2. 48	0. 29	10. 0. 48	0. 32	20. 31	10. 37
19	10. 2. 59	0. 29	10. 0. 24	0. 32	20. 36	10. 13
25	10. 3. 10	0. 30	10. 0. 3	0. 32	20. 41	9. 50

Days of the Month.	Days of the Week.	Moon's Longitude at Noon.	Moon's Longitude at Midnight.	Moon's Latitude at Noon.	Moon's Latitude at Midn.
		S. D. M. S.	S. D. M. S.	D. M. S.	D. M. S.
1	M.	2. 27. 59. 6	3. 4. 27. 31	3. 41. 20 N	3. 14. 17 N
2	Tu.	3. 10. 52. 24	3. 17. 13. 51	2. 45. 0	2. 13. 56
3	W.	3. 23. 32. 4	3. 29. 47. 6	1. 41. 26	1. 8. 2 N
4	Th.	4. 5. 59. 11	4. 12. 8. 28	0. 34. 2 N	0. 0. 5 S
5	F.	4. 18. 15. 6	4. 24. 19. 19	0. 33. 58 S	1. 7. 14
6	Sa.	5. 0. 21. 18	5. 6. 21. 18	1. 39. 32	2. 10. 32
7	*Su.*	5. 12. 19. 36	5. 18. 16. 28	2. 39. 58	3. 7. 31
8	M.	5. 24. 12. 15	6. 0. 7. 19	3. 32. 57	3. 56. 3
9	Tu.	6. 6. 2. 3	6. 11. 56. 54	4. 16. 36	4. 34. 25
10	W.	6. 17. 52. 20	6. 23. 48. 50	4. 49. 20	5. 1. 11
11	Th.	6. 29. 46. 56	7. 5. 47. 9	5. 9. 52	5. 15. 10
12	F.	7. 11. 50. 3	7. 17. 56. 9	5. 17. 5	5. 15. 27
13	Sa.	7. 24. 6. 3	8. 0. 20. 14	5. 10. 11	5. 1. 14
14	*Su.*	8. 6. 39. 16	8. 13. 3. 36	4. 48. 32	4. 32. 5
15	M.	8. 19. 33. 39	8. 26. 9. 49	4. 11. 56	3. 48. 8
16	Tu.	9. 2. 52. 21	9. 9. 41. 23	3. 20. 51	2. 50. 18
17	W.	9. 16. 37. 4	9. 23. 39. 11	2. 16. 46	1. 40. 39
18	Th.	10. 0. 47. 33	10. 8. 1. 45	1. 2. 26 S	0. 22. 45 S
19	F.	10. 15. 21. 10	10. 22. 45. 2	0. 17. 46 N	0. 58. 24 N
20	Sa.	11. 0. 12. 31	11. 7. 42. 29	1. 38. 20	2. 16. 47
21	*Su.*	11. 15. 13. 54	11. 22. 45. 40	2. 52. 57	3. 26. 6
22	M.	0. 0. 16. 35	0. 7. 45. 37	3. 55. 35	4. 20. 55
23	Tu.	0. 15. 11. 45	0. 22. 34. 8	4. 41. 39	4. 57. 31
24	W.	0. 29. 52. 4	1. 7. 4. 59	5. 8. 23	5. 14. 15
25	Th.	1. 14. 12. 27	1. 21. 14. 17	5. 15. 9	5. 11. 17
26	F.	1. 28. 10. 17	2. 5. 0. 30	5. 2. 56	4. 50. 22
27	Sa.	2. 11. 45. 0	2. 18. 24. 5	4. 33. 56	4. 14. 1
28	*Su.*	2. 24. 57. 54	3. 1. 26. 48	3. 50. 58	3. 25. 18
29	M.	3. 7. 51. 9	3. 14. 11. 18	2. 57. 17	2. 27. 26
30	Tu.	3. 20. 27. 37	3. 26. 40. 30	1. 56. 5	1. 23. 39
31	W.	4. 2. 50. 19	4. 8. 57. 23	0. 50. 31	0. 17. 4

Days of the Month.	Days of the Week.	☽'s Age.	☽'s Passage over Merid.	☽'s Right Ascen. at Noon.	☽'s Right Ascen. at Midn.	☽'s Declination at Noon.	☽'s Declination at Midn.
			H. M.	D. M.	D. M.	D. M.	D. M.
1	M.	27	21. 51	87. 44	94. 58	27. 9 N	26. 38 N
2	Tu.	28	22. 44	102. 5	109. 0	25. 46	24. 34
3	W.	29	23. 33	115. 43	122. 13	23. 5	21. 20
4	Th.	1	0	128. 31	134. 37	19. 21	17. 10
5	F.	2	0. 19	140. 31	146. 15	14. 50	12. 22
6	Sa.	3	1. 2	151. 50	157. 18	9. 48	7. 10
7	*Su.*	4	1. 43	162. 41	168. 0	4. 29 N	1. 46 N
8	M.	5	2. 22	173. 17	178. 33	0. 57 S	3. 39 S
9	Tu.	6	3. 1	183. 50	189. 11	6. 19	8. 56
10	W.	7	3. 42	194. 36	200. 8	11. 28	13. 55
11	Th.	8	4. 25	205. 48	211. 38	16. 14	18. 25
12	F.	9	5. 11	217. 39	223. 53	20. 25	22. 14
13	Sa.	10	6. 0	230. 20	237. 0	23. 49	25. 9
14	*Su.*	11	6. 54	243. 54	251. 0	26. 11	26. 54
15	M.	12	7. 51	258. 16	265. 41	27. 15	27. 13
16	Tu.	13	8. 48	273. 13	280. 47	26. 47	25. 57
17	W.	14	9. 47	288. 20	295. 50	24. 42	23. 3
18	Th.	15	10. 44	303. 15	310. 33	21. 1	18. 39
19	F.	16	11. 40	317. 44	324. 47	15. 58	13. 1
20	Sa.	17	12. 34	331. 42	338. 32	9. 53	6. 34 S
21	*Su.*	18	13. 26	345. 17	352. 0	3. 10 S	0. 17 N
22	M.	19	14. 18	358. 41	5. 24	3. 43 N	7. 5
23	Tu.	20	15. 10	12. 9	18. 58	10. 19	13. 24
24	W.	21	16. 4	25. 54	32. 55	16. 15	18. 51
25	Th.	22	17. 0	40. 4	47. 19	21. 8	23. 6
26	F.	23	17. 58	54. 40	62. 5	24. 42	25. 55
27	Sa.	24	18. 56	69. 32	76. 58	26. 45	27. 11
28	*Su.*	25	19. 52	84. 20	91. 37	27. 13	26. 53
29	M.	26	20. 45	98. 44	105. 41	26. 11	25. 9
30	Tu.	27	21. 35	112. 27	119. 0	23. 48	22. 13
31	W.	28	22. 23	125. 20	131. 28	20. 22	18. 19

Days of the Month.	Days of the Week.	Semidr. ☽ at Noon.	Semidr. ☽ at Midnight.	Hor. Par. ☽ at Noon.	Hor. Par. ☽ at Midnight.	Proport. Logar. at Noon.	Proport. Logar. at Midn.
		M. S.	M. S.	M. S.	M. S.		
1	M.	15. 29	15. 25	56. 51	56. 35	5005	5026
2	Tu.	15. 21	15. 17	56. 20	56. 5	5045	5064
3	W.	15. 13	15. 9	55. 50	55. 36	5084	5102
4	Th.	15. 6	15. 2	55. 23	55. 11	5119	5134
5	F.	14. 59	14. 56	54. 59	54. 48	5150	5165
6	Sa.	14. 54	14. 51	54. 39	54. 30	5177	5189
7	*Su.*	14. 49	14. 48	54. 24	54. 18	5197	5205
8	M.	14. 47	14. 46	54. 14	54. 12	5210	5213
9	Tu.	14. 46	14. 47	54. 13	54. 15	5211	5209
10	W.	14. 48	14. 50	54. 19	54. 25	5203	5195
11	Th.	14. 52	14. 55	54. 34	54. 45	5183	5169
12	F.	14. 59	15. 3	54. 59	55. 15	5150	5129
13	Sa.	15. 8	15. 14	55. 34	55. 55	5104	5077
14	*Su.*	15. 20	15. 27	56. 18	56. 43	5048	5015
15	M.	15. 34	15. 42	57. 9	57. 36	4983	4949
16	Tu.	15. 49	15. 57	58. 4	58. 32	4913	4878
17	W.	16. 5	16. 12	59. 0	59. 26	4844	4812
18	Th.	16. 19	16. 25	59. 51	60. 13	4782	4755
19	F.	16. 30	16. 34	60. 32	60. 48	4733	4714
20	Sa.	16. 37	16. 39	60. 59	61. 6	4700	4692
21	*Su.*	16. 40	16. 39	61. 9	61. 8	4689	4690
22	M.	16. 38	16. 35	61. 2	60. 52	4697	4709
23	Tu.	16. 32	16. 27	60. 39	60. 22	4724	4745
24	W.	16. 22	16. 16	60. 2	59. 41	4769	4794
25	Th.	16. 10	16. 4	59. 20	58. 57	4820	4848
26	F.	15. 58	15. 51	58. 34	58. 10	4876	4906
27	Sa.	15. 45	15. 39	57. 47	57. 25	4934	4962
28	*Su.*	15. 33	15. 27	57. 3	56. 42	4990	5017
29	M.	15. 22	15. 17	56. 23	56. 5	5041	5064
30	Tu.	15. 12	15. 8	55. 48	55. 33	5086	5106
31	W.	15. 4	15. 1	55. 19	55. 6	5124	5141

Distances of ☽'s Center from Sun, and from Stars east of her.

Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
6						44. 28. 0	42. 58. 16	41. 28. 40	39. 59. 12
7	Spica ♍	38. 29. 52	37. 0. 39	35. 31. 34	34. 2. 36	32. 33. 45	31. 5. 1	29. 36. 24	28. 7. 54
8		26. 39. 32	25. 11. 17	23. 43. 10	22. 15. 11	20. 47. 19			
8						66. 27. 5	64. 58. 28	63. 29. 51	62. 1. 16
9	Antares.	60. 32. 42	59. 4. 9	57. 35. 35	56. 7. 1	54. 38. 26	53. 9. 51	51. 41. 14	50. 12. 35
10		48. 43. 54	47. 15. 9	45. 46. 20	44. 17. 27	42. 48. 30	41. 19. 28	39. 50. 20	38. 21. 5
11		36. 51. 44	35. 22. 16	33. 52. 39	32. 22. 53	30. 52. 59			
11						86. 28. 36	85. 10. 59	83. 53. 16	82. 35. 27
12	α Aquilæ.	81. 17. 32	79. 59. 34	78. 41. 32	77. 23. 27	76. 5. 19	74. 47. 7	73. 28. 54	72. 10. 40
13		70. 52. 26	69. 34. 13	68. 16. 3	66. 57. 55	65. 39. 51			
13						88. 40. 11	87. 13. 32	85. 46. 36	84. 19. 22
14	Fomal-	82. 51. 52	81. 24. 6	79. 56. 4	78. 27. 46	76. 59. 13	75. 30. 25	74. 1. 23	72. 32. 7
15	haut.	71. 2. 38	69. 32. 56	68. 3. 3	66. 33. 0	65. 2. 46	63. 32. 22	62. 1. 53	60. 31. 19
16		59. 0. 41	57. 30. 2	55. 59. 26	54. 28. 52	52. 58. 24			
16						72. 57. 42	71. 18. 41	69. 39. 21	67. 59. 41
17	α Pegasi.	66. 19. 43	64. 39. 28	62. 58. 59	61. 18. 17	59. 37. 21	57. 56. 12	56. 14. 56	54. 33. 33
18		52. 52. 4	51. 10. 33	49. 29. 3	47. 47. 36	46. 6. 11			

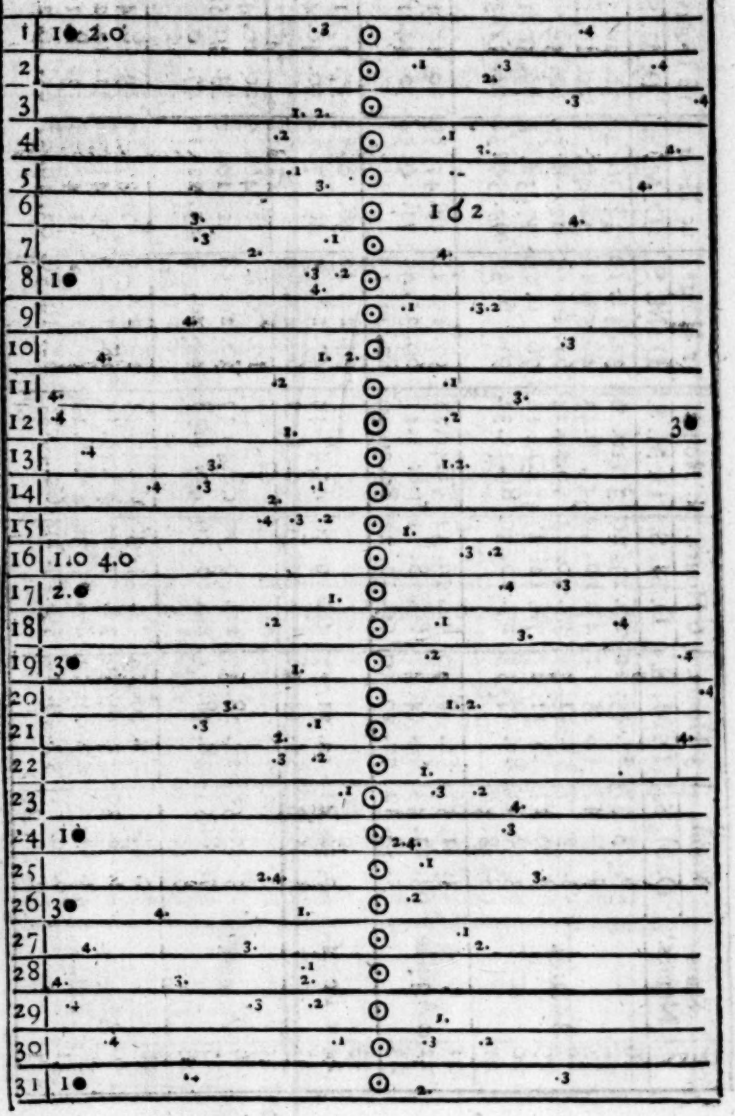
Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
18						86. 45. 33	84. 56. 4	83. 6. 17	81.16.12
19		79. 25. 49	77. 35. 9	75. 44. 15	73.53. 7	72. 1. 44	70. 10. 8	68. 18. 22	66.26.26
20	α Arietis.	64. 34. 21	62. 42. 9	60. 49. 52	58.57.30	57. 5. 3	55. 12. 33	53. 20. 3	51.27.33
21		49. 35. 3	47. 42. 36	45. 50. 14	43.57.59	42. 5. 49	40. 13. 48	38. 21. 59	36.30.21
22		34. 38. 55							
22		67. 6. 2	65. 15. 46	63. 25. 46	61.35.59	59. 46. 28	57. 57. 14	56. 8. 20	54.19.48
23	Aldeba-	52. 31. 36	50. 43. 47	48. 56. 25	47. 9.29	45. 23. 1	43. 37. 1	41. 51. 36	40. 6.46
24	ran.	38. 22. 32	36. 38. 53	34. 56. 3	33.14. 3	31. 32. 52	29. 52. 40	28. 13. 36	26.35.39
25		24. 58. 50							
25	Pollux.	65. 40. 6	63. 54. 59	62. 10. 14	60.25.51	58. 41. 50	56. 58. 11	55. 14. 54	53.32. 0
26		51. 49. 28	50. 7. 19	48. 25. 32	46.44. 8	45. 3. 4			
24		121. 36. 12	119. 55. 10	118. 14. 28	116.34. 7	114. 54. 7	113. 14. 27	111. 35. 8	109.56.10
25		108. 17. 32	106. 39. 15	105. 1. 19	103.23.44	101.46. 31	100. 9. 40	98. 33. 10	96.57. 1
26		95. 21. 12	93. 45. 44	92. 10. 38	90.35.52	89. 1. 27	87. 27. 22	85. 53. 37	84.20.12
27	The Sun.	82. 47. 7	81. 14. 20	79. 41. 53	78. 9.44	76. 37. 54	75. 6. 23	73. 35. 10	72. 4.14
28		70. 33. 37	69. 3. 17	67. 33. 13	66. 3.27	64. 33. 56	63. 4. 42	61. 35. 42	60. 6.59
29		58. 38. 30	57. 10. 16	55. 42. 17	54.14.32	52. 47. 1	51. 19. 44	49. 52. 40	48.25.49
30		46. 59. 11	45. 32. 46	44. 6. 32	42.40.31	41. 14. 42	39. 49. 4		

Distances of ☽'s Center from Sun, and from Stars west of her.

Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
1	Aldebaran.	23. 3. 56	24. 31. 32	25. 59. 52	27.28.52	28. 58. 28	30. 28. 37	31. 59. 7	33.29.58
2		35. 1. 11	36. 32. 28	38. 3. 53	39.35.25	41. 7. 5	42. 38. 47	44. 10. 28	45.42. 7
3		47. 13. 45							
8	The Sun.	38. 7. 43	39. 29. 24	40. 51. 1	42.12.35	43. 34. 6	44. 55. 35	46. 17. 2	47.38.27
9		48. 59. 50	50. 21. 13	51. 42. 36	53. 3.59	54. 25. 23	55. 46. 48	57. 8. 15	58.29.44
10		59. 51. 15	61. 12. 49	62. 34. 27	63.56. 9	65. 17. 55	66. 39. 47	68. 1. 45	69.23.50
11		70. 46. 1	72. 8. 19	73. 30. 46	74.53.21	76. 16. 4	77. 38. 57	79. 2. 1	80.25.15
12		81. 48. 41	83. 12. 19	84. 36. 9	86. 0.13	87. 24. 30	88. 49. 2	90. 13. 49	91.38.52
13		93. 4. 10	94. 29. 44	95. 55. 36	97.21.45	98. 48. 12	100. 14. 58	101. 42. 4	103. 9.30
14		104. 37. 16	106. 5. 23	107. 33. 51	109. 2.41	110. 31. 52	112. 1. 26	113. 31. 23	115. 1.44
15		116. 32. 28	118. 3. 36	119. 35. 9	121. 7. 8				
12	Spica ♍					27. 12. 52	28. 44. 3	30. 15. 33	31.47.19
13		33. 19. 24	34. 51. 47	36. 24. 30	37.57.31	39. 30. 52	41. 4. 33	42. 38. 34	44.12.57
14		45. 47. 40	47. 22. 45	48. 58. 12	50.34. 1	52. 10. 13	53. 46. 47	55. 23. 46	57. 1. 8
15		58. 38. 54	60. 17. 6	61. 55. 42	63.34.46	65. 14. 11	66. 54. 3	68. 34. 22	70.15. 6
16		71. 56. 16							

Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
16	Antares.	26. 3. 37	27. 45. 20	29. 27. 29	31. 10. 6	32. 53. 10	34. 36. 40	36. 20. 37	38. 4. 59
17		39. 49. 47	41. 35. 1	43. 20. 39	45. 6. 43	46. 53. 11	48. 40. 5	50. 27. 22	52. 15. 3
18		54. 3. 7	55. 51. 35	57. 40. 23	59. 29. 34	61. 19. 5	63. 8. 57	64. 59. 7	66. 49. 35
19		68. 40. 22	70. 31. 25	72. 22. 43	74. 14. 16	76. 6. 3	77. 58. 4	79. 50. 16	81. 42. 39
20		83. 35. 12	85. 27. 53	87. 20. 39	89. 13. 32	91. 6. 31	92. 59. 34	94. 52. 39	96. 45. 47
21		98. 38. 56							
21	α Aquilæ	51. 21. 53	52. 48. 40	54. 16. 34	55. 45. 28	57. 15. 18	58. 45. 57	60. 17. 14	61. 49. 9
22		63. 21. 43	64. 54. 42	66. 28. 1	68. 1. 41	69. 35. 42	71. 9. 54	72. 44. 13	74. 18. 40
23		75. 53. 14	77. 27. 50	79. 2. 22	80. 36. 49	82. 11. 13			
23	α Pegasi.					34. 24. 12	36. 0. 27	37. 37. 16	39. 14. 41
24		40. 52. 41	42. 31. 7	44. 9. 50	45. 48. 49	47. 28. 5	49. 7. 22	50. 46. 43	52. 26. 5
25		54. 5. 30	55. 44. 48	57. 24. 0	59. 3. 7	60. 42. 9			
25	Arietis.					17. 5. 41	18. 46. 9	20. 26. 41	22. 7. 18
26		23. 47. 58	25. 28. 37	27. 9. 10	28. 49 37	30. 29. 58	32. 10. 2	33. 49. 52	35. 29. 30
27		37. 8. 55	38. 48. 4	40. 26. 59	42. 5. 38	43. 44. 3	45. 22. 12	47. 0. 5	48. 37. 41
28		50. 15. 1							
28	Aldebaran.	20. 24. 8	21. 49. 24	23. 15. 36	24. 42. 43	26. 10. 45	27. 39. 30	29. 8. 44	30. 38. 27
29		32. 8. 39	33. 38. 56	35. 9. 24	36. 40. 1	38. 10. 49	39. 41. 36	41. 12. 25	42. 43. 14
30		44. 14. 5	45. 44. 52	47. 15. 38	48. 46. 21	50. 17. 2	51. 47. 38	53. 18. 10	54. 48. 38
31		56. 19. 1	57. 49. 18	59. 19. 29	60. 49. 35	62. 19. 36	63. 49. 31	65. 19. 21	66. 49. 5
S. 1		68. 18. 44							

Configurations of the SATELLITES of JUPITER at Three o' Clock in the Morning.



Days of the Month.	Days of the Week.	Sundays, Holidays, &c.
1	Th.	Giles.
2	F.	London burnt 1666, O.S.
3	Sa.	
4	*Su.*	*15th Sunday after Trinity.*
5	M.	
6	Tu.	
7	W.	Enurchus.
8	Th.	Nativity of B. V. Mary.
9	F.	
10	Sa.	
11	*Su.*	*16th Sunday after Trinity.*
12	M.	
13	Tu.	
14	W.	Holy Crofs.
15	Th.	
16	F.	
17	Sa.	Lambert.
18	*Su.*	*17th Sunday after Trinity.*
19	M.	
20	Tu.	
21	W.	*St. Matthew.*
22	Th.	*K. Geo.* III. *crown'd* 1761.
23	F.	
24	Sa.	
25	*Su.*	*18th Sunday after Trinity.*
26	M.	St. Cyprian.
27	Tu.	
28	W.	
29	Th.	*St. Mich. Prt. Char. Aug.*
30	F.	St. Jerome. [*born.*

Phaſes of the Moon.

	D.	H.	M.
New Moon —	3.	4.	57
Firſt Quarter –	11.	8.	1
Full Moon – –	18.	4.	3
Laſt Quarter –	24.	20.	27

Other Phenomena.

D.
5. ☾ ☿ $12^h.45'$.
9. ☾ ☍ ♏ $18^h.42'$.
10. ☾ ☌ ♏ $4^h.9'$.
☾ ∝ ♏ $7^h.57'$.
11. ☿ Stationary.
☾ 43 Ophiu. Im. $6^h.25'$.
$*8'$ N. of ☽'s cent Em. $7^h.37'\frac{1}{2}$. $*5'\frac{1}{2}$ North.
12. ☾ ☍ ♐ $16^h.52'$.
☾ ☌ ♐ $20^h.51'$.
14. ☾ ♄ $7^h.35'$.
19. ☾ ☍ ♓ $23^h.43'$.
22. ☉ enters ♎ at $4^h.18'$.
☾ ∝ Pleiadum $5^h.48'$.
25. ☾ ☍ ♊ $4^h.27'$.
26. ♀ ∨ ☊ diff. Lat. $3'$.
27. ☾ ☌ ♋ $11^h.31'$.

Days of the Month.	Days of the Week.	Sun's Longitude.	Sun's Right Asc. in Time.	Sun's Declin. North.	Equat. of Time. Sub.	Diff.
		S. D. M. S.	H. M. S.	D. M. S.	M. S.	S.
1	Th.	5. 9. 21. 16	10.43.44,2	8. 4. 20	0. 24,0	18,9
2	F.	5. 10. 19. 28	10.47.21,8	7. 42. 22	0. 42,9	19,1
3	Sa.	5. 11. 17. 42	10.50.59,2	7. 20. 16	1. 2,0	19,3
4	*Su.*	5. 12. 15. 58	10.54.36,4	6. 58. 3	1. 21,3	19,5
5	M.	5. 13. 14. 16	10.58.13,4	6. 35. 44	1. 40,8	19,8
6	Tu.	5. 14. 12. 36	11. 1.50,1	6. 13. 18	2. 0,6	20,0
7	W.	5. 15. 10. 57	11. 5.26,6	5. 50. 45	2. 20,6	20,2
8	Th.	5. 16. 9. 20	11. 9. 2,9	5. 28. 6	2. 40,8	20,4
9	F.	5. 17. 7. 44	11.12.39,0	5. 5. 23	3. 1,2	20,6
10	Sa.	5. 18. 6. 9	11.16 14,9	4. 42. 35	3. 21,8	20,8
11	*Su.*	5. 19. 4. 36	11.19.50,6	4. 19. 41	3. 42,6	20,9
12	M.	5. 20. 3. 5	11.23 26,3	3. 56. 43	4. 3,5	20,9
13	Tu.	5. 21. 1. 35	11.27. 1,9	3. 33. 42	4. 24,4	21,0
14	W.	5. 22. 0. 7	11.30.37,4	3. 10. 36	4. 45,4	21,0
15	Th.	5. 22. 58. 40	11 34 12,8	2. 47. 27	5. 6,4	21,0
16	F.	5. 23. 57. 15	11.37.48,2	2. 24. 15	5. 27,4	21,1
17	Sa.	5. 24. 55. 52	11.41.23,7	2. 1. 0	5. 48,5	21,1
18	*Su.*	5. 25. 54. 31	11.44.59,1	1. 37. 42	6. 9,6	21,1
19	M.	5. 26. 53. 12	11.48.34,5	1. 14. 22	6. 30,7	21,1
20	Tu.	5. 27. 51. 54	11.52. 9,9	0. 51. 1	6. 51,8	20,9
21	W.	5. 28. 50. 39	11.55.45,5	0. 27. 37	7. 12,7	20,8
22	Th.	5. 29. 49. 27	11 59 21,2	0. 4. 12	7. 33,5	20,6
				SOUTH.		
23	F.	6. 0. 48. 17	12. 2.57,1	0. 19. 14	7. 54,1	20,5
24	Sa.	6. 1. 47. 9	12. 6.33,1	0. 42. 40	8. 14,6	20,3
25	*Su.*	6. 2. 46. 3	12.10. 9,3	1. 6. 6	8. 34,9	20,1
26	M.	6. 3. 44. 59	12 13 45,7	1. 29. 33	8. 55,0	19,9
27	Tu.	6. 4. 43. 58	12.17 22,3	1. 52. 59	9. 14,9	19,7
28	W.	6. 5. 42. 59	12.20 59,1	2. 16. 24	9. 34,6	19,4
29	Th.	6. 6. 42. 2	12.24.36,2	2. 39. 48	9. 54,0	19,1
30	F.	6. 7. 41. 8	12.28 13,6	3. 3. 11	10. 13,1	

Days of the Month.	Semidiameter of the Sun.	Time of D° passing the Meridian.	Hourly Motion of the Sun.	Logarithm of the Sun's Distance.	Place of the Moon's Node.
	M. S.	M. S.	M. S.		S. D. M.
1	15. 55,9	1. 4,3	2. 25,4	0,003537	10. 10. 26
7	15. 56,5	1. 4,0	2. 25,7	0,002871	10. 10. 7
13	15. 58,0	1. 4,0	2. 26,3	0,002151	10. 9. 48
19	15. 59,5	1. 4,0	2. 26,7	0,001417	10. 9. 29
25	16. 1,2	1. 4,1	2. 27,3	0,000692	10. 9. 10

Eclipses of the SATELLITES of JUPITER.

I. Satellite. Immersions.		II. Satellite. Immersions.		III. Satellite.		
Days	H. M. S.	Days	H. M. S.	Days	H. M. S.	
1	8. 36. 6	3	7. 0. 20	1	19. 51. 40	I
3	3. 5. 11	6	20. 20. 20	1	22. 16. 40	E
4	21. 34. 17	*10	9. 40. 24	8	23. 55. 32	I
*6	16. 3. 25	13	23. 0. 27	9	2. 19. 10	E
*8	10. 32. 35	*17	12. 20. 32	16	3. 59. 36	I
10	5. 1. 44	21	1. 40. 38	16	6. 21. 51	E
11	23. 30. 55	*24	15. 0. 43	*23	8. 3. 45	I
13	18. 0. 6	28	4. 20. 46	*23	10. 24. 39	E
*15	12. 29. 19			*30	12. 7. 51	I
17	6. 58. 30			*30	14. 27. 25	E
19	1. 27. 43			IV. Satellite.		
20	19. 56. 57					
*22	14. 26. 12					
*24	8. 55. 24			9	7. 15. 18	I
26	3. 24. 39			*9	9. 7. 18	E
27	21. 53. 53			26	1. 44. 32	I
*29	16. 23. 3			26	3. 21. 6	E

Days	Heliocentric Longitude.	Heliocentric Latitude.	Geocentric Longitude.	Geocentric Latitude.	Declination.	Passage over Merid.
	S. D. M.	D. M.	S. D. M.	D. M.	D. M.	H. M.
MERCURY. Inf. ☌ 24d. 1h.						
1	9. 7. 35	5. 31 S	6. 6. 9	2. 50 S	5. 3 S	1. 34
4	9. 16. 23	6. 6	6. 8. 16	3. 15	6. 16	1. 31
7	9. 25. 34	6. 34	6. 9. 47	3. 36	7. 11	1. 25
10	10. 5. 17	6. 53	6. 10. 32	3. 53	7. 44	1. 16
13	10. 15. 38	7. 0	6. 10. 24	4. 1	7. 49	1. 5
16	10. 26. 47	6. 52	6. 9. 15	3. 59	7. 20	0. 50
19	11. 8. 53	6. 27	6. 7. 5	3. 42	6. 13	0. 31
2	11. 22. 8	5. 39	6. 4. 5	3. 8	4. 30	0. 10
25	0. 6. 38	4. 26	6. 0. 45	2. 19	2. 25	23. 42
28	0. 22. 30	2. 47	5. 27. 51	1. 19	0. 21 S	23. 23
30	1. 3. 50	1. 28	5. 26. 29	0. 39	0. 49 N	23. 12
VENUS.						
1	1. 8. 37	2. 0 S	3. 25. 8	1. 37 S	19. 32 N	21. 4
7	1. 18. 14	1. 31	4. 1. 43	1. 10	18. 40	21. 10
13	1. 27. 52	0. 59	4. 8. 25	0. 44	17. 29	21. 16
19	2. 7. 31	0. 26 S	4. 15. 13	0. 18 S	16. 0	21. 22
25	2. 17. 11	0. 9 N	4. 22. 7	0. 6 N	14. 15	21. 28
MARS.						
1	0. 16. 45	0. 58 S	2. 1. 37	1. 34 S	18. 59 N	17. 14
7	0. 20. 21	0. 51	2. 4. 26	1. 28	19. 36	17. 4
13	0. 23. 56	0. 45	2. 7. 0	1. 21	20. 11	16. 53
19	0. 27. 29	0. 39	2. 9. 18	1. 13	20. 40	16. 41
25	1. 1. 0	0. 32	2. 11. 19	1. 4	21. 6	16. 28
JUPITER.						
1	0. 6. 49	1. 19 S	0. 13. 21	1. 36 S	3. 48 N	14. 6
7	0. 7. 22	1. 19	0. 12. 46	1. 37	3. 34	13. 42
13	0. 7. 55	1. 19	0. 12. 6	1. 38	3. 17	13. 18
19	0. 8. 28	1. 19	0. 11. 22	1. 39	2. 59	12. 54
25	0. 9. 1	1. 19	0. 10. 36	1. 39	2. 41	12. 29
SATURN.						
1	10. 3. 23	0. 30 S	9. 29. 41	0. 33 S	20. 46 S	9. 23
7	10. 3. 34	0. 31	9. 29. 25	0. 33	20. 50	9. 0
13	10. 3. 45	0. 31	9. 29. 13	0. 33	20. 53	8. 38
19	10. 3. 56	0. 32	9. 29. 3	0. 33	20. 55	8. 16
25	10. 4. 7	0. 32	9. 28. 57	0. 34	20. 56	7. 54

Days of the Month.	Days of the Week.	Moon's Longitude at Noon.	Moon's Longitude at Midnight.	Moon's Latitude at Noon.	Moon's Latitude at Midn.
		S. D. M. S.	S. D. M. S.	D. M. S.	D. M. S.
1	Th.	4. 15. 2. 4	4. 21. 4. 38	0. 16. 21 S	0. 49. 20 S
2	F.	4. 27. 5. 23	5. 3. 4. 36	1. 21. 35	1. 52. 45
3	Sa.	5. 9. 2. 31	5. 14. 59. 21	2. 22. 32	2. 50. 39
4	*Su.*	5. 20. 55. 21	5. 26. 50. 42	3. 16. 48	3. 40. 45
5	M.	6. 2. 45. 40	6. 8. 40. 30	4. 2. 17	4. 21. 11
6	Tu.	6. 14. 35. 25	6. 20. 30. 48	4. 37. 16	4. 50. 25
7	W.	6. 26. 26. 52	7. 2. 24. 1	5. 0. 25	5. 7. 14
8	Th.	7. 8. 22. 37	7. 14. 23. 2	5. 10. 43	5. 10. 49
9	F.	7. 20. 25. 46	7. 26. 31. 14	5. 7. 29	5. 0. 38
10	Sa.	8. 2. 39. 58	8. 8. 52. 27	4. 50. 21	4. 36. 29
11	*Su.*	8. 15. 9. 11	8. 21. 30. 42	4. 19. 13	3. 58. 31
12	M.	8. 27. 57. 28	9. 4. 30. 0	3. 34. 31	3. 7. 26
13	Tu.	9. 11. 8. 43	9. 17. 53. 57	2. 37. 22	2. 4. 39
14	W.	9. 24. 46. 0	10. 1. 44. 59	1. 29. 36	0. 52. 39 S
15	Th.	10. 8. 50. 58	10. 16. 3. 42	0. 14. 17 S	0. 24. 51 N
16	F.	10. 23. 22. 54	11. 0. 47. 57	1. 4. 8 N	1. 42. 49
17	Sa.	11. 8. 18. 7	11. 15. 52. 22	2. 20. 7	2. 55. 15
18	*Su.*	11. 23. 29. 33	0. 1. 8. 20	3. 27. 27	3. 55. 59
19	M.	0. 8. 47. 22	0. 16. 25. 12	4. 20. 17	4. 39. 51
20	Tu.	0. 24. 0. 32	1. 1. 32. 3	4. 54. 22	5. 3. 39
21	W.	1. 8. 58. 44	1. 16. 19. 37	5. 7. 40	5. 6. 32
22	Th.	1. 23. 34. 5	2. 0. 41. 38	5. 0. 29	4. 49. 50
23	F.	2. 7. 42. 3	2. 14. 35. 18	4. 35. 0	4. 16. 23
24	Sa.	2. 21. 21. 27	2. 28. 0. 49	3. 54. 29	3. 29. 43
25	*Su.*	3. 4. 33. 43	3. 11. 0. 37	3. 2. 35	2. 33. 30
26	M.	3. 17. 22. 2	3. 23. 38. 29	2. 2. 54	1. 31. 15
27	Tu.	3. 29. 50. 33	4. 5. 58. 46	0. 58. 53 N	0. 26. 10 N
28	W.	4. 12. 3. 41	4. 18. 5. 57	0. 6. 31 S	0. 38. 52 S
29	Th.	4. 24. 5. 56	5. 0. 4. 9	1. 10. 33	1. 41. 15
30	F.	5. 6. 1. 1	5. 11. 56. 56	2. 10. 41	2. 38. 33

Days of the Month.	Days of the Week.	☽'s Age.	☽'s Paſſage over Merid.	☽'s Right Aſcenſ. at Noon.	☽'s Right Aſc. at Midn.	☽'s Declination at Noon.	☽'s Declination at Midn.
			H. M.	D. M.	D. M.	D. M.	D. M.
1	Th.	29	23. 6	137. 25	143. 12	16. 5 N	13. 42 N
2	F.	30	23. 48	148. 50	154. 20	11. 13	8. 38
3	Sa.	1	♂	159. 45	165. 5	5. 59	3. 18 N
4	*Su.*	2	0. 28	170. 22	175. 38	0. 35 N	2. 7 S
5	M.	3	1. 8	180. 55	186. 14	4. 48 S	7. 26
6	Tu.	4	1. 48	191. 37	197. 5	10. 0	12. 30
7	W.	5	2. 30	202. 40	208. 22	14. 53	17. 8
8	Th.	6	3. 14	214. 14	220. 16	19. 13	21. 7
9	F.	7	4. 1	226. 30	232. 55	22. 49	24. 16
10	Sa.	8	4. 52	239. 33	246. 22	25. 28	26. 21
11	*Su.*	9	5. 45	253. 21	260. 29	26. 56	27. 10
12	M.	10	6. 42	267. 43	275. 1	27. 2	26. 31
13	Tu.	11	7. 40	282. 22	289. 42	25. 37	24. 20
14	W.	12	8. 36	297. 0	304. 13	22. 40	20. 39
15	Th.	13	9. 32	311. 21	318. 24	18. 18	15. 39
16	F.	14	10. 26	325. 21	332. 14	12. 44	9. 36
17	Sa.	15	11. 19	339. 4	345. 51	6. 18 S	2. 53 S
18	*Su.*	16	12. 12	352. 39	359. 29	0. 35 N	4. 4 N
19	M.	17	13. 6	6. 21	13. 18	7. 29	10. 46
20	Tu.	18	14. 1	20. 22	27. 32	13. 53	16. 46
21	W.	19	14. 58	34. 51	42. 17	19. 22	21. 38
22	Th.	20	15. 57	49. 49	57. 26	23. 32	25. 2
23	F.	21	16. 57	65. 5	72. 43	26. 8	26. 49
24	Sa.	22	17. 56	80. 18	87. 47	27. 5	26. 57
25	*Su.*	23	18. 52	95. 5	102. 13	26. 26	25. 34
26	M.	24	19. 43	109. 7	115. 48	24. 22	22. 54
27	Tu.	25	20. 30	122. 15	128. 28	21. 10	19. 13
28	W.	26	21. 14	134. 29	140. 20	17. 6	14. 48
29	Th.	27	21. 56	146. 0	151. 33	12. 24	9. 53
30	F.	28	22. 36	156. 59	162. 20	7. 17	4. 38

Days of the Month.	Days of the Week.	Semidr. ☽ at Noon.	Semidr. ☽ at Midnight.	Hor. Par. ☽ at Noon.	Hor. Par. ☽ at Midnight.	Proport. Logar. at Noon.	Proport. Logar. at Midn.
		M. S.	M. S.	M. S.	M. S.		
1	Th.	14. 58	14. 55	54. 55	54. 45	5155	5169
2	F.	14. 52	14. 50	54. 35	54. 27	5182	5193
3	Sa.	14. 48	14. 47	54. 20	54. 15	5202	5209
4	*Su.*	14. 46	14. 45	54. 10	54. 7	5215	5219
5	M.	14. 44	14. 44	54. 5	54. 5	5222	5222
6	Tu.	14. 45	14. 46	54. 7	54. 10	5219	5215
7	W.	14. 47	14. 49	54. 15	54. 22	5209	5199
8	Th.	14. 51	14. 54	54. 31	54. 41	5187	5174
9	F.	14. 58	15. 2	54. 55	55. 10	5155	5136
10	Sa.	15. 7	15. 12	55. 28	55. 47	5112	5087
11	*Su.*	15. 18	15. 25	56. 9	56. 33	5059	5028
12	M.	15. 32	15. 39	56. 59	57. 26	4995	4961
13	Tu.	15. 47	15. 55	57. 54	58. 23	4926	4890
14	W.	16. 3	16. 10	58. 52	59. 21	4854	4819
15	Th.	16. 18	16. 25	59. 49	60. 14	4784	4754
16	F.	16. 31	16. 36	60. 37	60. 57	4727	4703
17	Sa.	16. 41	16. 44	61. 13	61. 24	4684	4671
18	*Su.*	16. 46	16. 47	61. 32	61. 34	4661	4659
19	M.	16. 46	16. 44	61. 31	61. 23	4663	4672
20	Tu.	16. 40	16. 35	61. 10	60. 53	4687	4708
21	W.	16. 30	16. 24	60. 33	60. 10	4732	4759
22	Th.	16. 17	16. 10	59. 45	59. 19	4789	4821
23	F.	16. 2	15. 55	58. 52	58. 25	4854	4887
24	Sa.	15. 47	15. 40	57. 57	57. 29	4922	4957
25	*Su.*	15. 32	15. 26	57. 2	56. 38	4991	5022
26	M.	15. 19	15. 14	56. 15	55. 54	5051	5079
27	Tu	15. 9	15. 4	55. 35	55. 18	5103	5125
28	W.	15. 0	14. 56	55. 2	54. 49	5146	5163
29	Th.	14. 53	14. 50	54. 37	54. 28	5179	5191
30	F.	14. 48	14. 46	54. 20	54. 13	5202	5211

Distances of ☽'s Center from Sun, and from Stars east of her.

Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
5	Antares.	63. 48. 56	62. 20. 18	60. 51. 41	59.23. 6	57. 54. 32	56. 25. 59	54. 57. 27	53.28.54
6		52. 0. 21	50. 31. 47	49. 3. 12	47.34.35	46. 5. 57	44. 37. 18	43. 8. 36	41.39.51
7		40. 11. 4	38. 42. 13	37. 13. 18	35.44.19	34. 15. 15	32. 46. 6	31. 16. 51	29.47.31
8		28. 18. 4							
8	α Aquilæ	84. 12. 20	82. 55. 13	81. 38. 4	80.20.53	79. 3. 41	77. 46. 29	76. 29. 17	75.12. 7
9		73. 54. 58	72. 37. 52	71. 20. 50	70. 3.51	68. 46. 55	67. 30. 7	66. 13. 26	64.56.53
10		63. 40. 28							
10	Fomalhaut.	86. 34. 6	85. 8. 54	83. 43. 28	82.17.51	80. 52. 0	79. 25. 57	77. 59. 43	76.33.18
11		75. 6. 41	73. 39. 52	72. 12. 54	70.45.46	69. 18. 29	67. 51. 2	66. 23. 29	64.55.48
12		63. 28. 1	62. 0. 6	60. 32. 9	59. 4.10	57. 36. 9	56. 8. 9	54. 40. 14	53.12.23
13		51. 44. 37							
13	α Pegasi.	71. 31. 50	69. 55. 25	68. 18. 42	66.41.37	65. 4. 13	63. 26. 33	61. 48. 36	60.10.22
14		58. 31. 51	56. 53. 9	55. 14. 18	53.35.18	51. 56. 7	50. 16. 51	48. 37. 33	46.58.13
15		45. 18. 52							
15	α Arietis.	85. 55. 49	84. 8. 12	82. 20. 11	80.31.44	78. 42. 53	76. 53. 38	75. 4. 1	73.14. 1
16		71. 23. 40	69. 32. 57	67. 41. 55	65.50.35	63. 58. 55	62. 6. 58	60. 14. 46	58.22.19
17		56. 29. 38	54. 36. 44	52. 43. 40	50.50.27	48. 57. 5	47. 3. 36	45. 10. 3	43.16.26
18		41. 22. 45							

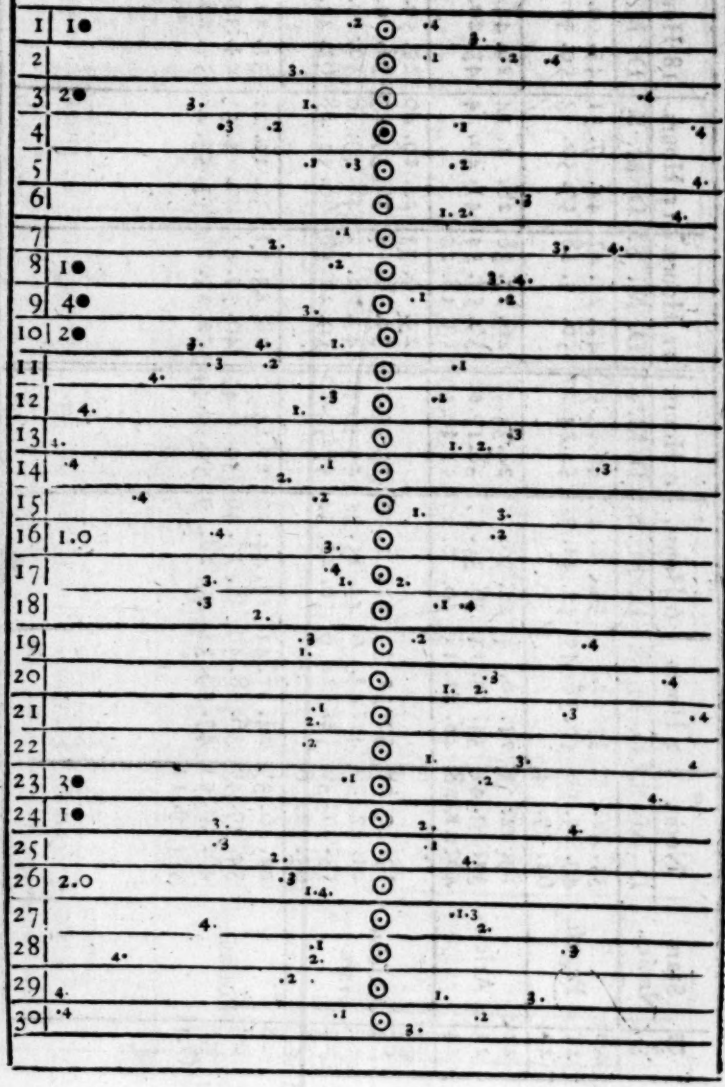
Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D M. S.
18	Aldebaran.	73. 45. 46	71. 53. 6	70. 0. 26	68. 7.48	66. 15. 10	64. 22. 37	62. 30. 12	60.37.55
19		58. 45. 46	56. 53. 49	55. 2. 8	53.10.43	51. 19. 34	49. 28. 43	47. 38. 16	45.48.15
20		43. 58. 38	42. 9. 30	40. 20. 56	38.33. 0	36. 45. 40	34. 58. 56	33. 13. 8	31.28.14
21		29. 44. 21	28. 1. 35	26. 20. 11	24.40.10	23. 1. 30			
21	Pollux.					63. 34. 52	61. 46. 32	59. 58. 37	58.11. 9
22		56. 24. 6	54. 37. 30	52. 51. 21	51. 5.39	49. 20. 24	47. 35. 37	45. 51. 18	44. 7.28
23		42. 24. 5	40. 41. 10	38. 58. 45	37.16.50	35. 35. 24	33. 54. 28	32. 14. 4	30.34.12
24		28. 54. 52	27. 16. 1	25. 37. 49	24. 0.14	22. 23. 22	20. 47. 13	19. 11. 53	17.37.24
25		16. 3. 44							
22	The Sun.					119. 30. 18	117. 52. 28	116. 15. 5	114.38. 6
23		113. 1. 33	111. 25. 25	109. 49. 43	108.14.25	106. 39. 33	105. 5. 6	103. 31. 4	101.57.27
24		100. 24. 14	98. 51. 25	97. 19. 0	95.46.58	94. 15. 19	92. 44. 3	91. 13. 10	89.42.38
25		88. 12. 29	86. 42. 41	85. 13. 14	83.44. 8	82. 15. 22	80. 46. 56	79. 18. 48	77.50.59
26		76. 23. 29	74. 56. 17	73. 29. 23	72. 2.45	70. 36. 25	69. 10. 21	67. 44. 31	66.18.58
27		64. 53. 39	63. 28. 35	62. 3. 45	60.39. 9	59. 14. 46	57. 50. 37	56. 26. 39	55. 2.53
28		53. 39. 19	52. 15. 55	50. 52. 42	49.29.38	48. 6. 46	46. 44. 3	45. 21. 31	43.59. 7
29		42. 36. 53	41. 14. 48	39. 52. 51					

Distances of ☽'s Center from Sun, and from Stars west of her.

Days	Stars Names.	Noon.	3 Hours.	6 Hours	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
6								38. 48. 17	40. 9.32
7		41. 30. 50	42. 52. 1	44. 13. 39	45.35.10	46. 56. 46	48. 18. 28	49. 40. 15	51. 2. 9
8		52. 24. 9	53. 46. 16	55. 8. 30	56 30.52	57. 53. 22	59. 16. 1	60. 38. 50	62. 1.49
9	The Sun.	63. 24. 57	64. 48. 15	66. 11. 46	67.35.27	68. 59. 21	70. 23. 28	71. 47. 49	73.12.24
10		74. 37. 12	76. 2. 15	77. 27. 34	78.53. 8	80. 18. 59	81. 45. 6	83. 11. 31	84.38.14
11		86. 5. 15	87. 32. 35	89. 0. 15	90.28.14	91. 56. 34	93. 25. 14	94. 54. 17	96.23.41
12		97. 53. 27	99. 23. 36	100. 54. 8	102.25. 4	103. 56. 23	105. 28. 7	107. 0. 16	108.32.50
13		110. 5. 49	111. 39. 13	113. 13. 2	114.47.18	116. 21. 59	117. 57. 6	119. 32. 40	121. 8.41
11						14. 42. 24	16. 18. 31	17. 55. 0	19.31.51
12		21. 9. 4	22. 46. 40	24. 24. 39	26. 3. 3	27. 41. 50	29. 21. 2	31. 0. 40	32.40.43
13		34. 21. 11	36. 2. 5	37. 43. 24	39.25.11	41. 7. 23	42. 50. 3	44. 33. 10	46.16.44
14	Antares.	48. 0. 45	49. 45. 12	51. 30. 6	53.15.27	55. 1. 15	56. 47. 31	58. 34. 13	60.21.21
15		62. 8. 55	63. 56. 55	65. 45. 20	67.34.10	69. 23. 25	71. 13. 5	73. 3. 7	74.53.32
16		76. 44. 20	78. 35. 29	80. 26. 58	82.18.47	84. 10. 55	86. 3. 22	87. 56. 6	89.49. 6
17		91. 42. 21	93. 35. 50	95. 29. 32	97.23.26	99. 17. 28			
17						51. 51. 44	53. 20. 0	54. 49. 24	56.19.51
18	α Aquilæ.	57. 51. 25	59. 23. 54	60. 57. 8	62.31. 7	64. 5. 51	65. 41. 7	67. 16. 49	68.52.58
19		70. 29. 33	72. 6. 24	73. 43. 27	75.20.42	76. 58. 8	78. 35. 39	80. 13. 9	81.50.38
20		83. 28. 5							

Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
20		35. 42. 7	37. 22. 9	39. 2. 45	40.43.56	42. 25. 41	44. 7. 51	45. 50. 16	47.32.55
21	α Pegasi.	49. 15. 50	50. 58. 43	52. 41. 35	54.24.27	56. 7. 18	57. 50. 3	59. 32. 35	61.14.56
22		62. 57. 4							
22		19. 22. 3	21. 6. 4	22. 50. 1	24.33.52	26. 17. 38	28. 1. 14	29. 44. 37	31.27.46
23	α Arietis.	33. 10. 41	34. 53. 14	36. 35. 27	38.17.20	39. 58. 54	41. 40. 4	43. 20. 54	45. 1.21
24		46. 41. 28	48. 21. 13	50. 0. 37	51.39.39	53. 18. 20			
24						23. 0. 33	24. 29. 46	25. 59. 31	27.29.46
25		29. 0. 28	30. 31. 33	32. 2. 49	33.34.20	35. 6. 4	36. 37. 43	38. 9. 21	39.40.59
26	Aldebaran.	41. 12. 36	42. 44. 6	44. 15. 31	45.46.50	47. 18. 3	48. 49. 8	50. 20. 5	51.50.54
27		53. 21. 36	54. 52. 9	56. 22. 34	57.52.50	59. 22. 58	60. 52. 58	62. 22. 49	63.52.33
28		65. 22. 6							
28		22. 46. 33	24. 15. 41	25. 44. 50	27.14. 0	28. 43. 11	30. 12. 22	31. 41. 32	33.10.39
29	Pollux.	34. 39. 46	36. 8. 49	37. 37. 49	39. 6.47	40. 35. 42	42. 4. 33	43. 33. 22	45. 2. 8
30		46. 30. 51	47. 59. 31	49. 28. 9	50.56.44	52. 25. 17	53. 53. 48	55. 22. 17	56.50.45
O.1		58. 19. 11							

Configurations of the SATELLITES of JUPITER at Eleven o' Clock at Night.



Days of the Month.	Days of the Week.	Sundays, Holidays, &c.
1	Sa.	Remigius.
2	*Su.*	*19th Sunday after Trinity.*
3	M.	
4	Tu.	
5	W.	
6	Th.	Faith.
7	F.	
8	Sa.	——————[S. Denys.
9	*Su.*	*20th Sunday after Trinity.*
10	M.	Oxf. and Cam. Ter. beg.
11	Tu.	
12	W.	
13	Th.	Tranſ. of K. Edw. Conf.
14	F.	
15	Sa.	
16	*Su.*	*21ſt Sunday after Trinity.*
17	M.	Etheldred.
18	Tu.	*St. Luke.*
19	W.	
20	Th.	
21	F.	
22	Sa.	
23	*Su.*	*22d Sunday after Trinity.*
24	M.	
25	Tu.	K. *Geo.* III. *Acceſ.* Criſp.
26	W.	K. *Geo.* III. *Procl.* 1760.
27	Th.	
28	F.	*St. Simon and St. Jude.*
29	Sa.	
30	*Su.*	*23d Sunday after Trinity.*
31	M.	

Phaſes of the Moon.

	D. H. M.
New Moon —	2. 22. 0
Firſt Quarter —	10. 20. 52
Full Moon —	17. 12. 52
Laſt Quarter —	24. 10. 52

Other Phenomena.

D.

1. ☾ ☌ ☊ 8ʰ. 29′.
3. ☿ Stationary.
   ♄ Stationary.
4. ♀ ☌ ☊ diff. Lat. 32′.
5. ♂ ☌ ♉ diff. Lat. 28′.
7. ☾ ☍ ♏ 0ʰ. 52′.
   ☾ ☌ ♏ 10ʰ. 23′.
   ☾ ☌ ♏ 14ʰ. 13′.
8. ☾ 43 Ophiu. 13ʰ. 24′.
9. ☾ ☌ ♐ 17ʰ. 1′.
10. ☾ ☍ ♐ 0ʰ. 14′.
    ☾ ☌ ♐ 4ʰ. 18′.
11. ☿ ☍ ♏ diff. Lat. 30′.
    ♀ ☍ ☊ diff. Lat. 20′.
    ☾ ☌ ♄ 15ʰ. 49′.
13. ☾ ☌ ♒ 21ʰ. 28′.
15. ♀ ☌ ☊ diff. Lat. 32′.
    ☿ ☍ ♏ diff. Lat. 47′.
17. ☾ ☍ ♓ 10ʰ. 57′.
19. ☾ ☍ Pleiadum 15ʰ. 50′.
20. ☿ ☌ ♏ diff. Lat. 7′.
21. ♂ Stationary.
    ☾ 125 ♉ 10ʰ. 37′.
    ♀ ☍ ♏ diff. Lat. 43′.
22. ☉ enters ♎ at 12ʰ. 13′.
    ☾ ☌ ♊ Im. 10ʰ. 39′.
    ✱ 0′½ S. of ☽'s cent.
    Em. 11ʰ. 37′½. ✱ 1′¼ South.
24. ☾ ☌ ♋ 18ʰ. 11′.
28. ☿ ☍ ♏ diff. Lat. 13′.
    ☾ ☌ ☊ 14ʰ. 47′.

Days of the Month.	Days of the Week.	Sun's Longitude.	Sun's Right Asc. in Time.	Sun's Declin. South.	Equat. of Time. Sub.	Diff.
		S. D. M. S.	H. M. S.	D. M. S.	M. S.	S.
1	Sa.	6. 8. 40. 16	12.31.51,3	3. 26. 32	10. 32,0	18,5
2	*Su.*	6. 9. 39. 27	12.35.29,3	3. 49. 51	10. 50,5	18,2
3	M.	6. 10. 38. 40	12.39. 7,6	4. 13. 7	11. 8,7	17,8
4	Tu.	6. 11. 37. 55	12.42.46,3	4. 36. 20	11. 26,5	17,5
5	W.	6. 12. 37. 12	12.46.25,3	4. 59. 30	11. 44,0	17,1
6	Th.	6. 13. 36. 30	12.50. 4,6	5. 22. 36	12. 1,1	16,8
7	F.	6. 14. 35. 50	12.53.44,4	5. 45. 38	12. 17,9	16,3
8	Sa.	6. 15. 35. 12	12.57.24,6	6. 8. 35	12. 34,2	15,9
9	*Su.*	6. 16. 34. 36	13. 1. 5,2	6. 31. 27	12. 50,1	15,4
10	M.	6. 17. 34. 2	13. 4.46,3	6. 54. 14	13. 5,5	14,9
11	Tu.	6. 18. 33. 30	13. 8.27,9	7. 16. 55	13. 20,4	14,5
12	W.	6. 19. 32. 59	13.12. 9,9	7. 39. 30	13. 34,9	14,0
13	Th.	6. 20. 32. 30	13.15.52,4	8. 1. 59	13. 48,9	13,5
14	F.	6. 21. 32. 3	13.19.35,5	8. 24. 21	14. 2,4	12,9
15	Sa.	6. 22. 31. 37	13.23.19,1	8. 46. 35	14. 15,3	12,4
16	*Su.*	6. 23. 31. 13	13.27. 3,2	9. 8. 42	14. 27,7	11,8
17	M.	6. 24. 30. 51	13.30.47,9	9. 30. 41	14. 39,5	11,3
18	Tu.	6. 25. 30. 31	13.34.33,2	9. 52. 32	14. 50,8	10,6
19	W.	6. 26. 30. 13	13.38.19,1	10. 14. 14	15. 1,4	9,9
20	Th.	6. 27. 29. 57	13.42. 5,7	10. 35. 47	15. 11,3	9,2
21	F.	6. 28. 29. 44	13.45.53,0	10. 57. 11	15. 20,5	8,6
22	Sa.	6. 29. 29. 33	13.49.41,0	11. 18. 25	15. 29,1	7,9
23	*Su.*	7. 0. 29. 24	13.53.29,6	11. 39. 29	15. 37,0	7,2
24	M.	7. 1. 29. 17	13.57.19,0	12. 0. 23	15. 44,2	6,4
25	Tu.	7. 2. 29. 12	14. 1. 9,1	12. 21. 5	15. 50,6	5,7
26	W.	7. 3. 29. 10	14. 5. 0,0	12. 41. 36	15. 56,3	4,9
27	Th.	7. 4. 29. 10	14. 8.51,6	13. 1. 55	16. 1,2	4,1
28	F.	7. 5. 29. 12	14.12.44,0	13. 22. 2	16. 5,3	3,4
29	Sa.	7. 6. 29. 17	14.16.37,2	13. 41. 57	16. 8,7	2,5
30	*Su.*	7. 7. 29. 24	14.20.31,2	14. 1. 39	16. 11,2	1,7
31	M.	7. 8. 29. 33	14.24 26,1	14. 21. 7	16. 12,9	

Days.	Semidiameter of the Sun.	Time of D° paſſing the Meridian.	Hourly Motion of the Sun.	Logarithm of the Sun's Diſtance.	Place of the Moon's Node.
	M. S.	M. S.	M. S.		S. D. M.
1	16. 2,9	1. 4,3	2. 27,8	9. 999958	10. 8. 51
7	16. 4,6	1. 4,6	2. 28,3	9. 999202	10. 8. 32
13	16. 6,1	1. 5,0	2. 28,9	9. 998434	10. 8. 12
19	16. 7,8	1. 5,6	2. 29,3	9. 997693	10. 7. 53
25	16. 9,5	1. 6,2	2. 29,8	9. 997003	10. 7. 34

Eclipſes of the SATELLITES of JUPITER.

I. Satellite. Immerſion.		II. Satellite. Immerſion.		III. Satellite.		
Days	H. M. S.	Days	H. M. S.	Days	H. M. S.	
*1	10. 52. 19	1	17. 40. 45	*7	16. 11. 30	I
	Emerſions.		Emerſions.	7	18. 29. 59	E
*3	7. 31. 36	*5	9. 31. 1	14	20. 15. 20	I
5	2. 0. 49	8	22. 50. 46	14	22. 32. 26	E
6	20. 29. 58	*12	12. 10. 23	22	0. 18. 51	I
*8	14. 59. 7	16	1. 29. 51	22	2. 34. 38	E
*10	9. 28. 16	*19	14. 49. 13	29	4. 21. 49	I
12	3. 57. 24	23	4. 8. 26	*29	6. 36. 19	E
13	22. 26. 30	26	17. 27. 30			
15	16. 55. 36	*30	6. 46. 25	IV. Satellite.		
*17	11. 24. 41					
19	5. 53. 45			12	20. 13. 18	I
21	0. 22. 46			12	21. 33. 2	E
22	18. 51. 46			*29	14. 44. 40	I
*24	13. 20. 45			29	15. 40. 40	E
*26	7. 49. 42					
28	2. 18. 37					
29	20. 47. 30					
31	15. 16. 21					

Days.	Heliocentric Longitude.	Heliocentric Latitude.	Geocentric Longitude.	Geocentric Latitude.	Declination.	Passage over Merid.
	S. D. M.	D. M.	S. D. M.	D. M.	D. M.	H. M.
MERCURY. Great. Elong. 10d.						
1	1. 9. 41	0. 45 S	5. 26. 2	0. 19 S	1. 17 N	23. 10
4	1. 27. 56	1. 29 N	5. 25. 43	0. 34 N	2. 13	23. 1
7	2. 16. 48	3. 37	5. 26. 59	1. 14	2. 20	22. 56
10	3. 5. 38	5. 22	5. 29. 34	1. 42	1. 44	22. 56
13	3. 23. 49	6. 30	6. 3. 10	1. 57	0. 32 N	23. 0
16	4. 10. 50	6. 58	6. 7. 26	2. 2	1. 5 S	23. 5
19	4. 26. 28	6. 53	6. 12. 6	1. 59	2. 57	23. 11
22	5. 10. 40	6. 21	6. 16. 59	1. 50	4. 59	23. 18
25	5. 23. 33	5. 33	6. 21. 58	1. 37	7. 4	23. 25
28	6. 5. 18	4. 34	6. 26. 58	1. 21	9. 9	23. 32
31	6. 16. 6	3. 29	7. 1. 56	1. 3	11. 11	23. 38
VENUS.						
1	2. 26. 52	0. 43 N	4. 29. 7	0. 28 N	12. 14 N	21. 35
7	3. 6. 34	1. 16	5. 6. 11	0. 48	9. 59	21. 40
13	3. 16. 17	1. 46	5. 13. 20	1. 5	7. 33	21. 45
19	3. 26. 2	2. 14	5. 20. 31	1. 19	4. 58	21. 50
25	4. 5. 46	2. 38	5. 27. 47	1. 30	2. 16	21. 54
MARS.						
1	1. 4. 29	0. 26 S	2. 12. 58	0. 54 S	21. 30 N	16. 13
7	1. 7. 56	0. 19	2. 14. 14	0. 42	21. 50	15. 56
13	1. 11. 20	0. 13	2. 15. 3	0. 30	22. 8	15. 37
19	1. 14. 43	0. 6	2. 15. 23	0. 15	22. 25	15. 16
25	1. 18. 4	0. 0	2. 15. 13	0. 0	22. 39	14. 52
JUPITER. ☌ 1d. 23¾h.						
1	0. 9. 34	1. 19 S	0. 9. 47	1. 39 S	2. 22 N	12. 4
7	0. 10. 7	1. 19	0. 8. 59	1. 39	2. 3	11. 40
13	0. 10. 40	1. 19	0. 8. 12	1. 39	1. 45	11. 15
19	0. 11. 13	1. 19	0. 7. 27	1. 38	1. 28	10. 50
25	0. 11. 46	1. 19	0. 6. 46	1. 37	1. 12	10. 24
SATURN. □ 21d. 17½h.						
1	10. 4. 18	0. 33 S	9. 28. 54	0. 34 S	20. 57 S	7. 32
7	10. 4. 29	0. 33	9. 28. 55	0. 34	20. 57	7. 10
13	10. 4. 40	0. 33	9. 29. 0	0. 34	20. 56	6. 48
19	10. 4. 51	0. 34	9. 29. 8	0. 34	20. 55	6. 26
25	10. 5. 2	0. 34	9. 29. 19	0. 34	20. 52	6. 4

Days of the Month.	Days of the Week.	Moon's Longitude at Noon.	Moon's Longitude at Midnight.	Moon's Latitude at Noon.	Moon's Latitude at Midn.
		S. D. M. S.	S. D. M. S.	D. M. S.	D. M. S.
1	Sa.	5. 17. 52. 13	5. 23. 47. 11	3. 4. 36 S	3. 28. 37 S
2	*Su.*	5. 29. 42. 3	6. 5. 37. 7	3. 50. 19	4. 9. 31
3	M.	6. 11. 32. 29	6. 17. 28. 30	4. 26. 1	4. 39. 37
4	Tu.	6. 23. 25. 9	6. 29. 22. 45	4. 50. 13	4. 57. 38
5	W.	7. 5. 21. 25	7. 11. 21. 19	5. 1. 50	5. 2. 41
6	Th.	7. 17. 22. 43	7. 23. 25. 53	5. 0. 11	4. 54. 18
7	F.	7. 29. 31. 0	8. 5. 38. 29	4. 45. 2	4. 32. 27
8	Sa.	8. 11. 48. 38	8. 18. 1. 51	4. 16. 35	3. 57. 33
9	*Su.*	8. 24. 18. 32	9. 0. 39. 8	3. 35. 28	3. 10. 29
10	M.	9. 7. 4. 4	9. 13. 33. 52	2. 42. 48	2. 12. 40
11	Tu.	9. 20. 8. 52	9. 26. 49. 35	1. 40. 21	1. 6. 13 S
12	W.	10. 3. 36. 22	10. 10. 29. 29	0. 30. 39 S	0. 5. 56 N
13	Th.	10. 17. 29. 11	10. 24. 35. 28	0. 42. 58 N	1. 19. 53
14	F.	11. 1. 48. 16	11. 9. 7. 20	1. 56. 5	2. 30. 49
15	Sa.	11. 16. 32. 7	11. 24. 1. 58	3. 3. 26	3. 33. 13
16	*Su.*	0. 1. 35. 55	0. 9. 12. 48	3. 59. 30	4. 21. 40
17	M.	0. 16. 51. 23	0. 24. 30. 10	4. 39. 12	4. 51. 45
18	Tu.	1. 2. 7. 46	1. 9. 42. 42	4. 59. 2	5. 1. 0
19	W.	1. 17. 13. 39	1. 24. 39. 26	4. 57. 44	4. 49. 25
20	Th.	2. 1. 59. 8	2. 9. 11. 56	4. 36. 25	4. 19. 10
21	F.	2. 16. 17. 25	2. 23. 15. 18	3. 58. 10	3. 33. 55
22	Sa.	3. 0. 5. 30	3. 6. 48. 14	3. 7. 0	2. 37. 56
23	*Su.*	3. 13. 23. 47	3. 19. 52. 34	2. 7. 12	1. 35. 21
24	M.	3. 26. 15. 8	4. 2. 32. 2	1. 2. 46 N	0. 29. 53 N
25	Tu.	4. 8. 43. 58	4. 14. 51. 29	0. 2. 54 S	0. 35. 17 S
26	W.	4. 20. 55. 23	4. 26. 56. 12	1. 6. 55	1. 37. 31
27	Th.	5. 2. 54. 37	5. 8. 51. 16	2. 6. 48	2. 34. 32
28	F.	5. 14. 46. 37	5. 20. 41. 18	3. 0. 27	3. 24. 21
29	Sa.	5. 26. 35. 45	6. 2. 30. 23	3. 45. 59	4. 5. 11
30	*Su.*	6. 8. 25. 31	6. 14. 21. 33	4. 21. 43	4. 35. 26
31	M.	6. 20. 18. 38	6. 26. 17. 3	4. 46. 10	4. 53. 48

Days of the Month.	Days of the Week.	☽'s Age.	☽'s Paſſage over Merid.	☽'s Right Aſcenſion at Noon.	☽'s Right Aſcen. at Midn.	☽'s Declination at Noon.	☽'s Declination at Midn.
			H. M.	D. M.	D. M.	D. M.	D. M.
1	Sa.	29	23. 16	167. 38	172. 55	1. 58 N	0. 43 S
2	*Su.*	30	23. 56	178. 12	183. 30	3. 24 S	6. 3
3	M.	1	♂	188. 51	194. 17	8. 39	11. 10
4	Tu.	2	0. 38	199. 50	205. 29	13. 35	15. 54
5	W.	3	1. 22	211. 18	217. 15	18. 3	20. 3
6	Th.	4	2. 8	223. 23	229. 42	21. 50	23. 24
7	F.	5	2. 57	236. 11	242. 50	24. 42	25. 44
8	Sa.	6	3. 49	249. 39	256. 35	26. 28	26. 52
9	*Su.*	7	4. 44	263. 38	270. 44	26. 56	26. 38
10	M.	8	5. 39	277. 52	284. 59	25. 59	24. 59
11	Tu.	9	6. 34	292. 4	299. 6	23. 37	21. 54
12	W.	10	7. 28	306. 3	312. 55	19. 52	17. 32
13	Th.	11	8. 20	319. 43	326. 26	14. 56	12. 5
14	F.	12	9. 11	333. 7	339. 46	9. 2	5. 50 S
15	Sa.	13	10. 3	346. 25	353. 7	2. 30 S	0. 53 N
16	*Su.*	14	10. 56	359. 52	6. 44	4. 18 N	7. 40
17	M.	15	11. 51	13. 43	20. 51	10. 55	14. 1
18	Tu.	16	12. 48	28. 9	35. 37	16. 54	19. 30
19	W.	17	13. 48	43. 15	51. 1	21. 45	23. 38
20	Th.	18	14. 50	58. 52	66. 46	25. 6	26. 8
21	F.	19	15. 51	74. 39	82. 27	26. 42	26. 51
22	Sa.	20	16. 49	90. 6	97. 33	26. 35	25. 55
23	*Su.*	21	17. 43	104. 47	111. 46	24. 54	23. 34
24	M.	22	18. 33	118. 29	124. 56	21. 57	20. 6
25	Tu.	23	19. 18	131. 9	137. 9	18. 3	15. 50
26	W.	24	20. 0	142. 57	148. 36	13. 29	11. 1
27	Th.	25	20. 41	154. 6	159. 30	8. 29	5. 52
28	F.	26	21. 21	164. 49	170. 6	3. 14 N	0. 34 N
29	Sa.	27	22. 0	175. 23	180. 40	2. 6 S	4. 45 S
30	*Su.*	28	22. 41	186. 0	191. 25	7. 21	9. 54
31	M.	29	23. 24	196. 55	202. 32	12. 21	14. 43

Days of the Month.	Days of the Week.	Semidr. ☽ at Noon.	Semidr. ☽ at Midnight.	Hor. Par. ☽ at Noon.	Hor. Par. ☽ at Midnight.	Proport. Logar. at Noon.	Proport. Logar. at Midn.
		M. S.	M. S.	M. S.	M. S.		
1	Sa.	14. 45	14. 44	54. 9	54. 5	5217	5222
2	*Su.*	14. 44	14. 44	54. 4	54. 3	5223	5225
3	M.	14. 44	14. 45	54. 4	54. 6	5223	5221
4	Tu.	14. 46	14. 47	54. 10	54. 15	5215	5209
5	W.	14. 49	14. 51	54. 21	54. 28	5201	5191
6	Th.	14. 53	14. 56	54. 37	54. 48	5179	5165
7	F.	14. 59	15. 3	55. 0	55. 14	5149	5130
8	Sa.	15. 7	15. 12	55. 30	55. 47	5110	5087
9	*Su.*	15. 17	15. 23	56. 7	56. 28	5062	5035
10	M.	15. 29	15. 36	56. 49	57. 13	5008	4977
11	Tu.	15. 42	15. 49	57. 37	58. 4	4947	4913
12	W.	15. 57	16. 4	58. 32	58. 59	4878	4845
13	Th.	16. 12	16. 19	59. 26	59. 51	4812	4782
14	F.	16. 25	16. 31	60. 14	60. 36	4754	4728
15	Sa.	16. 36	16. 40	60. 54	61. 10	4707	4687
16	*Su.*	16. 43	16. 45	61. 21	61. 28	4675	4666
17	M.	16. 45	16. 44	61. 29	61. 26	4665	4669
18	Tu.	16. 42	16. 39	61. 18	61. 5	4678	4693
19	W.	16. 34	16. 29	60. 48	60. 28	4714	4737
20	Th.	16. 22	16. 15	60. 4	59. 38	4766	4798
21	F.	16. 7	15. 59	59. 9	58. 40	4833	4869
22	Sa.	15. 51	15. 43	58. 11	57. 42	4905	4941
23	*Su.*	15. 35	15. 28	57. 13	56. 46	4977	5012
24	M.	15. 21	15. 15	56. 21	55. 57	5044	5075
25	Tu.	15. 9	15. 4	55. 37	55. 18	5100	5125
26	W.	15. 0	14. 55	55. 1	54. 46	5148	5167
27	Th.	14. 52	14. 49	54. 34	54. 24	5183	5197
28	F.	14. 47	14. 46	54. 16	54. 11	5207	5214
29	Sa.	14. 45	14. 45	54. 8	54. 7	5218	5219
30	*Su.*	14. 45	14. 45	54. 8	54. 10	5218	5215
31	M.	14. 46	14. 48	54. 13	54. 18	5211	5205

Distances of ☽'s Center from Sun, and from Stars east of her.

Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
4						91. 52. 56	90. 35. 49	89. 18. 38	88. 1.24
5	ζ Aquilæ.	86. 44. 6	85. 26. 46	84. 9. 26	82.52. 5	81. 34. 43	80. 17. 21	79. 0. 1	77.42.43
6		76. 25. 27	75. 8. 15	73. 51. 7	72.34. 4	71. 17. 6	70. 0. 14	68. 43. 30	67.26.53
7		66. 10. 29							
7		89. 31. 50	88. 7. 39	86. 43. 20	85.18.52	83. 54. 16	82. 29. 32	81. 4. 42	79.39.44
8	Fomal-	78. 14. 39	76. 49. 28	75. 24. 11	73.58.49	72. 33. 21	71. 7. 47	69. 42. 10	68.16.29
9	haut.	66. 50. 45	65. 24. 57	63. 59. 8	62.33.20	61. 7. 31	59. 41. 43	58. 16. 0	56.50.22
10		55. 24. 50	53. 59. 27	52. 34. 14	51. 9.15	49. 44. 26			
10						69. 7. 57	67. 33. 56	65. 59. 40	64.25.11
11	α Pegasi.	62. 50. 28	61. 15. 33	59. 40. 25	58. 5. 7	56. 29. 36	54. 53. 56	53. 18. 10	51.42.19
12		50. 6. 23	48. 30. 25	46. 54. 27	45.18.31	43. 42. 36			
12						84. 15. 23	82. 31. 4	80. 46. 21	79. 1.13
13		77. 15. 41	75. 29. 45	73. 43. 26	71.56.43	70. 9. 36	68. 22. 6	66. 34. 13	64.45.59
14	α Arietis.	62. 57. 22	61. 8. 23	59. 19. 5	57.29.26	55. 39. 28	53. 49. 11	51. 58. 37	50. 7.47
15		48. 16. 41	46. 25. 19	44. 33. 45	42.41.59	40. 50. 2	38. 57. 56	37. 5. 43	35.13.24
16		33. 20. 59							

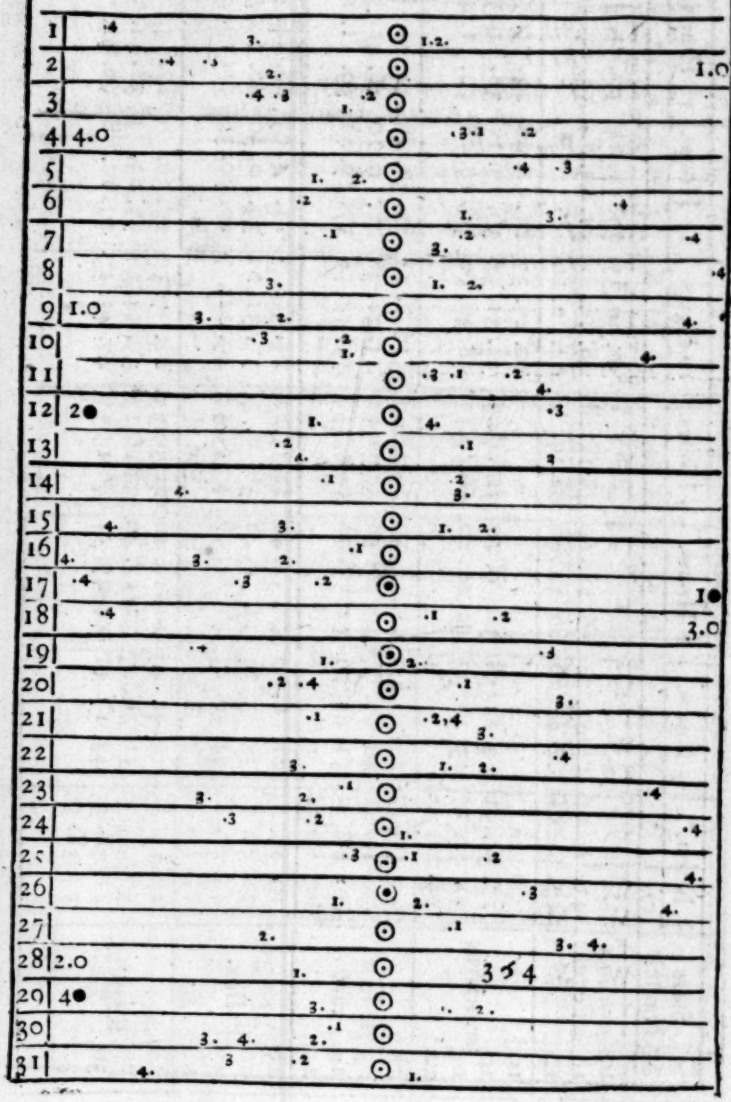
Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S	D. M. S.	D. M. S.
16		65. 48. 34	63. 56. 48	62. 4 58	60.13. 5	58. 21. 9	56. 29. 14	54. 37. 24	52.45.40
17	Aldebaran.	50. 54. 1	49. 2. 30	47. 11. 14	45.20.14	43. 29. 26	41. 38. 59	39. 48. 59	37.59.28
18		36. 10. 25	34. 21. 49	32. 34. 4	30.47.12	29. 1. 12	27. 16. 23	25. 32. 49	23.50.35
19		22. 9. 53							
19		62. 42. 14	60. 51. 14	59. 0. 36	57.10.19	55. 20. 23	53. 30. 51	51. 41. 44	49.53. 2
20	Pollux.	48. 4. 46	46. 16. 58	44. 29. 38	42.42.47	40. 56. 25	39. 10. 32	37. 25. 11	35.40.22
21		33. 56. 6	32. 12. 21	30. 29. 15	28.46.46	27. 4. 56	25. 23. 47	23. 43. 24	22. 3.46
22		20. 24. 53							
22		56. 47. 28	55. 6. 5	53. 25. 9	51.44.40	50. 4. 37	48. 25. 0	46. 45. 49	45. 7. 3
23	Regulus.	43. 28. 42	41. 50. 47	40. 13. 16	38.36. 9	36. 59. 26	35. 23. 7	33. 47. 10	32.11.36
24		30. 36. 25	29. 1. 36	27. 27. 8	25.53. 2	24. 19. 17			
22		119. 21. 11	117. 47. 40	116. 14. 34	114.41.55	113. 9. 41	111. 37. 52	110. 6. 28	108.35.29
23		107. 4. 54	105. 34. 43	104. 4. 56	102.35.32	101. 6. 31	99. 37. 53	98. 9. 35	96.41.40
24		95. 14. 6	93. 46. 53	92. 20. 0	90.53.27	89. 27. 13	88. 1. 17	86. 35. 38	85.10.17
25	The Sun.	83. 45. 14	82. 20. 29	80. 55. 59	79.31.44	78. 7. 45	76. 43. 58	75. 20. 26	73.57. 6
26		72. 33. 59	71. 11. 6	69. 48. 23	68.25.53	67. 3. 33	65. 41. 24	64. 19. 23	62.57.32
27		61. 35. 49	60. 14. 14	58. 52. 47	57.31.28	56. 10. 15	54. 49. 10	53. 28. 10	52. 7 16
28		50. 46. 28	49. 25. 44	48. 5. 4	46.44.28	45. 23. 57	44. 3. 29	42. 43. 4	41.22.43
29		40. 2. 24							

Distances of ☽'s Center from Sun, and from Stars west of her.

Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
6						39. 35. 3	40. 57. 47	42. 20. 41	43.43.45
7		45. 7. 0	46. 30. 25	47. 54. 2	49.17.50	50. 41. 50	52. 6. 1	53. 30. 25	54.55. 1
8		56. 19. 50	57. 44. 51	59. 10. 7	60.35.36	62. 1. 19	63. 27. 17	64. 53. 30	66.19.58
9	The Sun.	67. 46. 42	69. 13. 42	70. 40. 59	72. 8.32	73. 36. 23	75. 4. 31	76. 32. 57	78. 1.42
10		79. 30. 45	81. 0. 8	82. 29. 52	83.59.55	85. 30. 18	87. 1. 1	88. 32. 6	90. 3.31
11		91. 35. 19	93. 7. 29	94. 40. 2	96.12.57	97. 46. 15	99. 19. 56	100. 54. 1	102.28.30
12		104. 3. 21	105. 38. 36	107. 14. 15	108.50.18	110. 26. 45	112. 3. 36	113. 40. 51	115.18.30
13		116. 56. 33	118. 34. 58	120. 13. 46					
10						36. 47. 45	38. 26. 14	40. 5. 5	41.44.17
11		43. 23. 51	45. 3. 47	46. 44. 7	48.24.49	50. 5. 54	51. 47. 23	53. 29. 16	55.11.32
12	Antares.	56. 54. 13	58. 37. 17	60. 20. 45	62. 4.38	63. 48. 55	65. 33. 38	67. 18. 45	69. 4.17
13		70. 50. 14	72. 36. 35	74. 23. 20	76.10.30	77. 58. 3	79. 46. 0	81. 34. 21	83.23. 4
14		85. 12. 11	87. 1. 41	88. 51. 32	90.41.44	92. 32. 17	94. 23. 11	96. 14. 23	98. 5.54
15		99. 57. 44							
15		52. 19. 19	53. 46. 39	55. 15. 10	56.44.50	58. 15. 37	59. 47. 24	61. 20. 1	62.53.29
16	α Aquilæ.	64. 27. 47	66. 2. 44	67. 38. 15	69.14.21	70. 51. 0	72. 28. 6	74. 5. 31	75.43.17
17		77. 21. 22	78. 59. 41	80. 38. 6	82.16.37	83. 55. 15			

Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
17						36. 9. 37	37. 51. 14	39. 33. 32	41.16.31
18	α Pegasi.	43. 0. 11	44. 44. 22	46. 28. 55	48.13.48	49. 59. 3	51. 44. 24	53. 29. 50	55.15.19
19		57. 0. 54	58. 46. 26	60. 31. 50	62.17. 4	64. 2. 10			
19						20. 27. 37	22. 14. 48	24. 1. 54	25.48.55
20	α Arietis.	27. 35. 51	29. 22. 38	31. 9. 10	32.55.29	34. 41. 33	36. 27. 15	38. 12. 36	39.57.36
21		41. 42. 15	43. 26. 30	45. 10. 20	46.53.47	48. 36. 50	50. 19. 28	52. 1. 40	53.43.25
22		55. 24. 45							
22		24. 47. 52	26. 21. 7	27. 54. 39	29.28 28	31. 2. 33	32. 36. 48	34. 11. 5	35.45.25
23	Aldebaran.	37. 19. 46	38. 53. 56	40. 27. 58	42. 1.52	43. 35. 38	45. 9. 10	46. 42. 30	48.15.38
24		49. 48. 35	51. 21. 16	52. 53. 42	54.25.56	55. 57. 56	57. 29. 42	59. 1. 16	60.32.36
25		62. 3. 42							
25		19. 36. 23	21. 6. 0	22. 35. 40	24. 5.22	25. 35. 7	27. 4. 53	28. 34. 36	30. 4.17
26	Pollux.	31. 33. 55	33. 3. 24	34. 32. 48	36. 2. 7	37. 31. 21	39. 0. 30	40. 29. 34	41.58.33
27		43. 27. 26	44. 56. 13	46. 24. 56	47.53.34	49. 22. 7	50. 50. 36	52. 19. 2	53.47.25
28		55. 15. 44							
28		18. 14. 43	19. 42. 59	21. 11. 16	22.39.33	24. 7. 50	25. 36. 8	27. 4. 26	28.32.46
29	Regulus.	30. 1. 6	31. 29. 27	32. 57. 49	34.26.13	35. 54. 38	37. 23. 4	38. 51. 32	40.20. 3
30		41. 48 35	43. 17. 11	44. 45. 51	46.14.33	47. 43. 19	49. 12. 8	50. 41. 1	52. 9.58
31		53. 38. 58							

Configurations of the SATELLITES of JUPITER at Ten o'Clock at Night.



Days of the Month.	Days of the Week.	Sundays, Holidays, &c.
1	Tu.	*All Saints.*
2	W.	*Pr. Edw. born.*
3	Th.	*Prs. Soph. born.* On mor.
4	F.	[of All Souls, 1 ret.
5	Sa.	*Powder-Plot*, 1605.
6	*Su.*	*24th Su. aft. Tr.* Leon^d.
7	M.	*D. of Cum. b.* M. T. beg.
8	Tu.	*Prs. Aug. Sophia born.*
9	W.	
10	Th.	
11	F.	St. Martin. [C. T. div. m.
12	Sa.	On mor. of S. Mart. 2 ret.
13	*Su.*	*25th Sunday after Trinity.*
14	M.	[Britius.
15	Tu.	Machutus.
16	W.	
17	Th.	Hugh Bp. of Lincoln.
18	F.	In 8 days of St. Mart. 3
19	Sa.	[ret.
20	*Su.*	*26th Sunday after Trinity*
21	M.	[Edm. K. and Mart.
22	Tu.	Cecilia.
23	W.	St. Clement.
24	Th.	
25	F.	*D. of Gl. b.* Cath. In 15
26	Sa.	[days of St. Mart. 4 ret.
27	*Su.*	*Advent Sunday.*
28	M.	Michaelmas Term ends.
29	Tu.	
30	W.	*St. Andrew.*

Phases of the Moon.

	D.	H.	M.
New Moon —	1.	15.	39
First Quarter —	9.	7.	49
Full Moon —	15.	22.	50
Last Quarter —	23.	5.	12

Other Phenomena.

D.

3. ☾ ☍ ♏ 6^h. 37′.
☾ ☌ ♏ 16^h. 5′.
☾ ☌ ♏ 19^h. 53′.
4. ☾ 43 Ophiu. 18^h. 58′.
5. ☾ ☍ ♐ 22^h. 40′.
6. ☾ ☌ ♐ 10^h. 2′.
7. ☾ ☌ ♑ 23^h. 57′.
8. ☿ ☌ ♏ diff. Lat. 1′.
10. ☾ ☌ ♒ 5^h. 21′.
13. ☾ ☍ ♓ 21^h. 36′.
16. ☾ ☍ Pleiadum 2^h. 49′.
17. ☾ 125 ♉ 20^h. 57′.
18. ☾ ☌ ♊ 21^h. 57′.
21. ☾ ☌ ♋ 2^h. 23′.
☉ enters ♐ at 8^h. 25′.
24. ☾ ☌ ♌ 21^h. 43′.
29. ♅ Stationary.
30. ☾ ☍ ♏ 13^h. 14′.
☾ ☌ ♏ 22^h. 35′.

Days of the Month.	Days of the Week.	Sun's Longitude.	Sun's Right Asc. in Time.	Sun's Declin. South.	Equat. of Time. Sub.	Diff.
		S. D. M. S.	H. M. S.	D. M. S.	M. S.	S.
1	Tu.	7. 9.29.43	14.28.21,6	14.40.20	16.13,9	0,1
2	W.	7.10.29.56	14.32.18,1	14.59.20	16.14,0	0,7
3	Th.	7.11.30.11	14.36.15,4	15.18. 6	16.13,3	1,5
4	F.	7.12.30.27	14.40.13,4	15.36.36	16.11,8	2,3
5	Sa.	7.13.30.45	14.44.12,2	15.54.51	16. 9,5	3,1
6	*Su.*	7.14.31. 5	14.48.11,9	16.12.50	16. 6,4	3,9
7	M.	7.15.31.26	14.52.12,5	16.30.32	16. 2,5	4,7
8	Tu.	7.16.31.48	14.56.13,8	16.47.58	15.57,8	5,6
9	W.	7.17.32.11	15. 0.15,9	17. 5. 6	15.52,2	6,4
10	Th.	7.18.32.36	15. 4.18,9	17.21.56	15.45,8	7,3
11	F.	7.19.33. 2	15. 8.22,7	17.38.29	15.38,5	8,1
12	Sa.	7.20.33.30	15.12.27,3	17.54.43	15.30,4	8,9
13	*Su.*	7.21.33.59	15.16.32,8	18.10.38	15.21,5	9,7
14	M.	7.22.34.29	15.20.39,1	18.26.14	15.11,8	10,5
15	Tu.	7.23.35. 1	15.24.46,2	18.41.31	15. 1,3	11,3
16	W.	7.24.35.34	15.28.54.1	18.56.28	14.50,0	12,2
17	Th.	7.25.36. 9	15.33. 2.9	19.11. 4	14.37,8	13,1
18	F.	7.26.36.45	15.37.12.6	19.25.19	14.24,7	13,9
19	Sa.	7.27.37.23	15.41.23.1	19.39.14	14.10,8	14,7
20	*Su.*	7.28.38. 2	15.45.34.4	19.52.47	13.56.1	15,5
21	M.	7.29.38.43	15.49.46,5	20. 5.59	13.40,6	16,4
22	Tu.	8. 0.39.26	15.53.59,5	20.18.48	13.24,2	17,2
23	W.	8. 1.40.11	15.58.13,3	20.31.15	13. 7,0	17,9
24	Th.	8. 2.40.57	16. 2.27,8	20.43.19	12.49,1	18,7
25	F.	8. 3.41.45	16. 6.43,1	20.55. 0	12.30,4	19,5
26	Sa.	8. 4.42.35	16.10.59,2	21. 6.18	12.10,9	20,3
27	*Su.*	8. 5.43.26	16.15.16,1	21.17.12	11.50,6	21,0
28	M.	8. 6.44.18	16.19.33,7	21.27.41	11.29,6	21,7
29	Tu.	8. 7.45.12	16.23.52,0	21.37.46	11. 7,9	22,3
30	W.	8. 8.46. 7	16.28.10,9	21.47.26	10.45,6	

Days.	Semidiameter of the Sun.	Time of D° passing the Meridian.	Hourly Motion of the Sun.	Logarithm of the Sun's Distance.	Place of the Moon's Node.
	M. S.	M. S.	M. S.		S. D. M.
1	16. 11, 2	1. 6, 9	2. 30, 4	9. 996228	10. 7. 12
7	16. 12, 6	1. 7, 6	2. 30, 8	9. 995583	10. 6. 53
13	16. 13, 9	1. 8, 3	2. 31, 3	9. 994975	10. 6. 34
19	16. 15, 1	1. 9, 0	2. 31, 7	9. 994437	10. 6. 15
25	16. 16, 2	1. 9, 7	2. 32, 1	9. 993979	10. 5. 56

Eclipses of the SATELLITES of JUPITER.

I. Satellite. Emerſions.		II. Satellite. Emerſions.		III. Satellite.		
Days	H. M. S.	Days	H. M. S.	Days	H. M. S.	
*2	9. 45. 12	2	20. 5. 2	*5	8. 24. 24	I
4	4. 13. 59	*6	9. 23. 32	*5	10. 37. 31	E
5	22. 42. 45	9	22. 41. 52	*12	12. 26. 26	I
7	17. 11. 29	*13	12. 0. 0	12	14. 38. 13	E
*9	11. 40. 10	17	1. 17. 55	19	16. 27. 50	I
*11	6. 8. 48	20	14. 35. 39	19	18. 38. 15	E
13	0. 37. 24	24	3. 53. 10	26	20. 28. 33	I
14	19. 6. 0	27	17. 10. 29	26	22. 37. 45	E
*16	13. 34. 33					
*18	8. 3. 4			IV. Satellite.		
20	2. 31. 32					
21	20. 59. 57			*15	9. 24. 21	I
23	15. 28. 19			*15	9. 34. 7	E
*25	9. 56. 40					
27	4. 24. 59					
28	22. 53. 17					
30	17. 21. 33					

Days.	Heliocentric Longitude.	Heliocentric Latitude.	Geocentric Longitude.	Geocentric Latitude.	Declination.	Passage over Merid.
	S. D. M.	D. M.	S. D. M.	D. M.	D. M.	H. M.
MERCURY. Sup. ☌ 10d. 14½h.						
1	6. 19. 31	3. 7 N	7. 3. 35	0. 56 N	11. 51 S	23. 41
4	6. 29. 20	2. 0	7. 8. 30	0. 37	13. 47	23. 48
7	7. 8. 35	0. 53 N	7. 13. 22	0. 16 N	15. 36	23. 54
10	7. 17. 25	0. 12 S	7. 18. 11	0. 4 S	17. 20	0. 1
13	7. 25. 58	1. 14	7. 22. 58	0. 24	18. 55	0. 6
16	8. 4. 18	2. 14	7. 27. 42	0. 43	20. 22	0. 12
19	8. 12. 33	3. 11	8. 2. 24	1. 1	21. 40	0. 19
22	8. 20. 48	4. 2	8. 7. 4	1. 19	22. 48	0. 26
25	8. 29. 8	4. 49	8. 11. 44	1. 34	23. 46	0. 33
28	9. 7. 39	5. 31	8. 16. 23	1. 48	24. 33	0. 41
30	9. 13. 29	5. 55	8. 19. 28	1. 56	24. 59	0. 45
VENUS.						
1	4. 17. 10	2. 59 N	6. 6. 19	1. 39 N	1. 1 S	21. 58
7	4. 26. 56	3. 14	6. 13. 40	1. 44	3. 48	22. 1
13	5. 6. 41	3. 21	6. 21. 4	1. 46	6. 35	22. 4
19	5. 16. 26	3. 23	6. 28. 29	1. 45	9. 19	22. 7
25	5. 26. 10	3. 19	7. 5. 55	1. 41	11. 56	22. 10
MARS. ☌ 27d. 7½h.						
1	1. 21. 56	0. 8 N	2. 14. 21	0. 20 N	22. 53 N	14. 21
7	1. 25. 12	0. 14	2. 13. 2	0. 38	23. 1	13. 51
13	1. 28. 27	0. 20	2. 11. 17	0. 57	23. 6	13. 19
19	2. 1. 39	0. 26	2. 9. 11	1. 15	23. 5	12. 45
25	2. 4. 50	0. 32	2. 6. 55	1. 32	23. 0	12. 10
JUPITER.						
1	0. 12. 24	1. 19 S	0. 6. 4	1. 36 S	0. 57 N	9. 55
7	0. 12. 57	1. 19	0. 5. 34	1. 34	0. 47	9. 29
13	0. 13. 30	1. 19	0. 5. 11	1. 33	0. 39	9. 3
19	0. 14. 3	1. 19	0. 4. 55	1. 31	0. 34	8. 37
25	0. 14. 36	1. 19	0. 4. 47	1. 29	0. 32	8. 12
SATURN.						
1	10. 5. 15	0. 35 S	9. 29. 37	0. 34 S	20. 49 S	5. 38
7	10. 5. 26	0. 35	9. 29. 56	0. 35	20. 45	5. 16
13	10. 5. 37	0. 36	10. 0. 19	0. 35	20. 40	4. 53
19	10. 5. 48	0. 36	10. 0. 44	0. 35	20. 35	4. 30
25	10. 5. 59	0. 37	10. 1. 12	0. 35	20. 29	4. 7

Days of the Month.	Days of the Week.	Moon's Longitude at Noon.	Moon's Longitude at Midnight.	Moon's Latitude at Noon.	Moon's Latitude at Midn.
		S. D. M. S.	S. D. M. S.	D. M. S.	D. M. S.
1	Tu.	7. 2.16.59	7. 8.18.34	4.58.11 S	4.59.16 S
2	W.	7. 14.21.48	7. 20.26.56	4.56.58	4.51.16
3	Th.	7. 26.33.54	8. 2.42.56	4.42.11	4.29.45
4	F.	8. 8.54. 3	8. 15. 7.25	4.14. 4	3.55.14
5	Sa.	8. 21.23.12	8. 27.41.35	3.33.26	3. 8.49
6	*Su.*	9. 4. 2.47	9. 10.27. 7	2.41.39	2.12.11
7	M.	9. 16.54.47	9. 23.26.12	1.40.44	1. 7.37 S
8	Tu.	10. 0. 1.35	10. 6.41.22	0.33.14 S	0. 1.59 N
9	W.	10. 13.25.45	10. 20.15. 6	0.37.36 N	1.13. 7
10	Th.	10. 27. 9.33	11. 4. 9.20	1.48. 2	2.21.43
11	F.	11. 11.14.23	11. 18.24.41	2.53.40	3.23.14
12	Sa.	11. 25.39.59	0. 2.59.50	3.49.52	4.12.59
13	*Su.*	0. 10.23.40	0. 17.50.40	4.32. 5	4.46.41
14	M.	0. 25.19.55	1. 2.50.16	4.56.26	5. 1. 6
15	Tu.	1. 10.20.37	1. 17.49.38	5. 0.34	4.54.53
16	W.	1. 25.16. 8	2. 2.38.57	4.44.12	4.28.50
17	Th.	2. 9.57. 1	2. 17. 9.32	4. 9. 9	3.45.43
18	F.	2. 24.15.42	3. 1.15. 9	3.19. 2	2.49.46
19	Sa.	3. 8. 7.34	3. 14.52.54	2.18.23	1.45.34
20	*Su.*	3. 21.31.14	3. 28. 2.53	1.11.50	0.37.37 N
21	M.	4. 4.28. 7	4. 10.47.33	0. 3.29 N	0.30.13 S
22	Tu.	4. 17. 1.38	4. 23.11. 3	1. 3. 6 S	1.34.51
23	W.	4. 29.16.24	5. 5.18.25	2. 5.10	2.33.47
24	Th.	5. 11.17.39	5. 17.14.55	3. 0.30	3.25. 4
25	F.	5. 23.10.43	5. 29. 5.49	3.47.19	4. 7. 3
26	Sa.	6. 5. 0.40	6. 10.55.56	4.24. 7	4.38.21
27	*Su.*	6. 16.52. 2	6. 22.49.28	4.49.37	4.57.46
28	M.	6. 28.48.35	7. 4.49.45	5. 2.42	5. 4.17
29	Tu.	7. 10.53. 9	7. 16.59. 8	5. 2.28	4.57.11
30	W.	7. 23. 7.39	7. 29.19. 0	4.48.26	4.36.12

Days of the Month.	Days of the Week.	☽'s Age.	☽'s Paſſage over Merid.	☽'s Right Aſcenſion at Noon.	☽'s Right Aſcenſ. at Midn.	☽'s Declination at Noon.	☽'s Declination at Midn.
			H. M.	D. M.	D. M.	D. M.	D. M.
1	Tu.	1	♂	208. 18	214.13	16. 56 S	19. 0 S
2	W.	2	0. 9	220. 19	226.36	20. 53	22. 34
3	Th.	3	0. 58	233. 3	239.41	23. 59	25. 8
4	F.	4	1. 49	246. 28	253.22	25. 59	26. 32
5	Sa.	5	2. 43	260. 22	267.26	26. 44	26. 36
6	*Su.*	6	3. 38	274. 30	281.34	26. 6	25. 15
7	M.	7	4. 32	288. 34	295.30	24. 4	22. 33
8	Tu.	8	5. 24	302. 20	309. 5	20. 43	18. 36
9	W.	9	6. 15	315. 43	322.16	16. 13	13. 36
10	Th.	10	7. 5	328. 44	335.10	10. 47	7. 48
11	F.	11	7. 53	341. 35	348. 1	4. 41 S	1. 28 S
12	Sa.	12	8. 43	354. 30	1. 4	1. 47 N	5. 4 N
13	*Su.*	13	9. 35	7. 45	14.35	8. 17	11. 25
14	M.	14	10. 30	21. 36	28.49	14. 24	17. 11
15	Tu.	15	11. 28	36. 15	43.53	19. 41	21. 53
16	W.	16	12. 29	51. 41	59.37	23. 42	25. 6
17	Th.	17	13. 31	67. 37	75.38	26. 5	26. 36
18	F.	18	14. 32	83. 35	91.24	26. 39	26. 17
19	Sa.	19	15. 29	99. 0	106.22	25. 31	24. 23
20	*Su.*	20	16. 22	113. 28	120.17	22. 56	21. 11
21	M.	21	17. 10	126. 49	133. 6	19. 13	17. 4
22	Tu.	22	17. 54	139. 9	145. 0	14. 45	12. 19
23	W.	23	18. 35	150. 40	156.11	9. 47	7. 11
24	Th.	24	19. 15	161. 36	166.56	4. 33 N	1. 54 N
25	F.	25	19. 54	172. 14	177.32	0. 46 S	3. 25 S
26	Sa.	26	20. 34	182. 51	188.13	6. 2	8. 36
27	*Su.*	27	21. 16	193. 39	199.13	11. 5	13. 29
28	M.	28	22. 0	204. 54	210.45	15. 46	17. 55
29	Tu.	29	22. 47	216. 46	223. 0	19. 53	21. 40
30	W.	30	23. 38	229. 25	236. 1	23. 13	24. 31

Days of the Month.	Days of the Week.	Semidr. ☽ at Noon.	Semidr. ☽ at Midnight.	Hor. Par. ☽ at Noon.	Hor. Par. ☽ at Midnight.	Proport. Logar. at Noon.	Proport. Logar. at Midn.
		M. S.	M. S.	M. S.	M. S.		
1	Tu.	14. 49	14. 51	54. 23	54. 31	5198	5187
2	W.	14. 54	14. 56	54. 39	54. 48	5177	5165
3	Th.	14. 59	15. 2	54. 58	55. 9	5152	5137
4	F.	15. 5	15. 9	55. 21	55. 35	5122	5103
5	Sa.	15. 13	15. 17	55. 49	56. 5	5085	5064
6	*Su.*	15. 21	15. 26	56. 21	56. 39	5044	5021
7	M.	15. 31	15. 36	56. 57	57. 16	4998	4972
8	Tu.	15. 42	15. 47	57. 36	57. 56	4949	4923
9	W.	15. 53	15. 59	58. 17	58. 38	4897	4871
10	Th.	16. 4	16. 10	58. 59	59. 20	4845	4820
11	F.	16. 15	16. 20	59. 39	59. 58	4797	4773
12	Sa.	16. 25	16. 29	60. 14	60. 29	4754	4736
13	*Su.*	16. 32	16. 34	60. 40	60. 49	4723	4712
14	M.	16. 35	16. 36	60. 53	60. 54	4708	4707
15	Tu.	16. 35	16. 33	60. 51	60. 43	4710	4719
16	W.	16. 29	16. 25	60. 31	60. 15	4734	4753
17	Th.	16. 20	16. 14	59. 56	59. 34	4776	4802
18	F.	16. 7	16. 0	59. 10	58. 44	4832	4864
19	Sa.	15. 53	15. 45	58. 17	57. 50	4897	4931
20	*Su.*	15. 38	15. 31	57. 22	56. 56	4966	4999
21	M.	15. 24	15. 17	56. 30	56. 6	5032	5063
22	Tu.	15. 11	15. 6	55. 44	55. 24	5091	5118
23	W.	15. 1	14. 57	55. 7	54. 51	5140	5161
24	Th.	14. 54	14. 51	54. 39	54. 29	5177	5190
25	F.	14. 49	14. 48	54. 22	54. 17	5199	5206
26	Sa.	14. 47	14. 47	54. 15	54. 15	5209	5209
27	*Su.*	14. 48	14. 48	54. 17	54. 20	5206	5202
28	M.	14. 50	14. 52	54. 26	54. 34	5194	5183
29	Tu.	14. 55	14. 58	54. 44	54. 54	5170	5157
30	W.	15. 1	15. 4	55. 6	55. 18	5141	5125

Distances of ☽'s Center from Sun, and from Stars east of her.

Days	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
3						86. 38. 41	85. 13. 45	83. 48. 43	82.23.35
4	Fomal-	80. 58. 21	79. 33. 2	78. 7. 40	76.42.14	75. 16. 45	73. 51. 12	72. 25. 38	71. 0. 3
5	haut	69. 34. 27	68. 8. 50	66. 43. 16	65.17.43	63. 52. 14	62. 26. 48	61. 1. 29	59.36.18
6		58. 11. 14	56. 46. 20	55. 21. 39	53.57.10	52. 32. 54			
6						72. 1. 23	70. 28. 42	68. 55. 53	67.22.54
7	α Pegasi.	65. 49. 46	64. 16. 31	62. 43. 9	61. 9.42	59. 36. 8	58. 2. 30	56. 28. 49	54.55. 5
8		53. 21. 19	51. 47. 32	50. 13. 45	48 40. 0	47. 6. 15			
8						88. 0. 50	86. 20. 10	84. 39. 13	82.57.58
9		81. 16. 24	79. 34. 33	77. 52. 23	76. 9.55	74. 27. 9	72. 44. 5	71. 0. 43	69.17. 3
10	ε Arietis.	67. 33. 5	65. 48. 48	64. 4. 13	62.19.20	60. 34. 9	58. 48. 41	57. 2. 56	55.16.54
11		53. 30. 35	51. 43. 58	49. 57. 7	48.10. 0	46. 22. 38	44. 35. 2	42. 47. 12	40.59.10
12		39. 10. 54							
12		71. 39. 34	69. 51. 54	68. 4. 2	66.15.57	64. 27. 41	62. 39. 15	60. 50. 42	59. 2. 2
13	Aldeba-	57. 13. 15	55. 24. 22	53. 35. 28	51.46.33	49. 57. 36	48. 8. 39	46. 19. 48	44.31. 5
14	ran.	42. 42. 28	40. 54. 1	39. 5. 51	37.18. 1	35. 30. 32	33. 43. 20	31. 56. 50	30.11. 3
15		28. 26. 0	26. 41. 59	24. 59. 5	23.17.25	21. 37. 7			

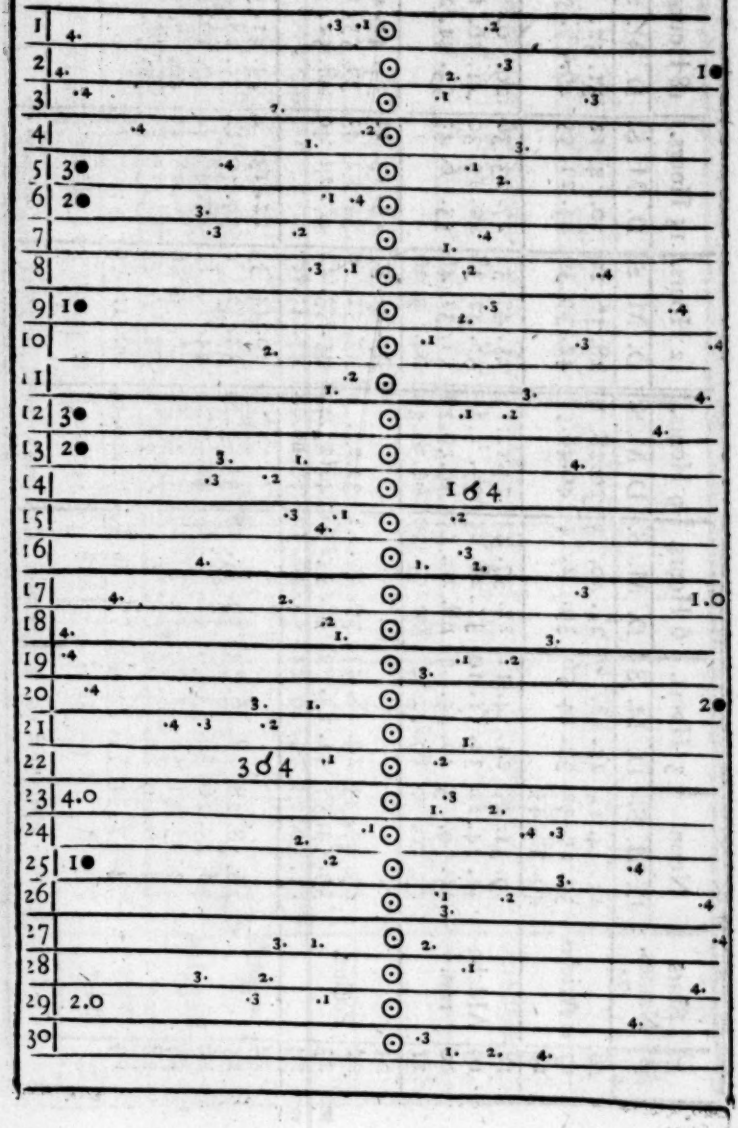
Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
15						62. 6. 58	60. 16. 4	58. 25. 22	56. 34. 52
16	Pollux.	54. 44. 35	52. 54. 32	51. 4. 46	49. 15. 18	47. 26. 6	45. 37. 14	43. 48. 43	42. 0. 35
17		40. 12. 48	38. 25. 25	36. 38. 29	34. 52. 1	33. 6. 1	31. 20. 32	29. 35. 38	27. 51. 18
18		26. 7. 33							
18		62. 37. 9	60. 51. 41	59. 6. 38	57. 22. 0	55. 37. 46	53. 53. 58	52. 10. 35	50. 27. 38
19	Regulus.	48. 45. 6	47. 3. 1	45. 21. 21	43. 40. 8	41. 59. 21	40. 19. 1	38. 39. 7	36. 59. 38
20		35. 20. 36	33. 41. 59	32. 3. 47	30. 26. 1	28. 48. 41	27. 11. 47	25. 35. 19	23. 59. 17
21		22. 23. 41							
21		76. 23. 52	74. 48. 13	73. 12. 56	71. 38. 1	70. 3. 28	68. 29. 16	66. 55. 22	65. 21. 49
22	Spica ♍	63. 48. 34	62. 15. 37	60. 42. 58	59. 10. 35	57. 38. 30	56. 6. 41	54. 35. 8	53. 3. 50
23		51. 32. 47							
20						121. 5. 22	119. 36. 7	118. 7. 15	116. 38. 44
21		115. 10. 35	113. 42. 47	112. 15. 20	110. 48. 14	109. 21. 28	107. 55. 3	106. 28. 56	105. 3. 8
22		103. 37. 39	102. 12. 28	100. 47. 33	99. 22. 55	97. 58. 34	96. 34. 29	95. 10. 38	93. 47. 2
23	The Sun.	92. 23. 41	91. 0. 32	89. 37. 36	88. 14. 52	86. 52. 20	85. 30. 0	84. 7. 51	82. 45. 51
24		81. 24. 1	80. 2. 19	78. 40. 44	77. 19. 17	75. 57. 58	74. 36. 46	73. 15. 39	71. 54. 38
25		70. 33. 42	69. 12. 49	67. 51. 59	66. 31. 12	65. 10. 28	63. 49. 47	62. 29. 7	61. 8. 28
26		59. 47. 50	58. 27. 11	57. 6. 32	55. 45. 51	54. 25. 10	53. 4. 27	51. 43. 41	50. 22. 53
27		49. 2. 2	47. 41. 7	46. 20. 9	44. 59. 6	43. 38. 0	42. 16. 49	40. 55. 33	39. 34. 12

Distances of ☽'s Center from Sun, and from Stars west of her.

Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
5			39. 26. 55	40. 53. 5	42.19.29	43. 46. 6	45. 12. 57	46. 40. 3	48. 7.22
6		49. 34. 56	51. 2. 44	52. 30. 47	53.59. 4	55. 27. 36	56. 56. 22	58. 25. 22	59.54.38
7		61. 24. 9	62. 53. 56	64. 23. 59	65.54.17	67. 24. 52	68. 55. 42	70. 26. 48	71.58.11
8	The Sun.	73. 29. 50	75. 1. 47	76. 34. 2	78. 6.34	79. 39. 23	81. 12. 29	82. 45. 53	84.19.35
9		85. 53. 35	87. 27. 54	89. 2. 31	90.37.27	92. 12. 41	93. 48. 13	95. 24. 4	97. 0.13
10		98. 36. 41	100. 13. 29	101. 50. 35	103.28. 0	105. 5. 43	106. 43. 45	108. 22. 4	110. 0.41
11		111. 39. 36	113. 18. 49	114. 58. 19	116.38. 6	118. 18. 10	119. 58. 30	121. 39. 6	
9						73. 38. 11	75. 21. 38	77. 5. 25	78.49.31
10	Antares.	80. 33. 56	82. 18. 40	84. 3. 44	85.49. 6	87. 34. 47	89. 20. 46	91. 7. 4	92.53.40
11		94. 40. 35	96. 27. 48	98. 15. 19	100. 3. 8	101. 51. 15			
11						53. 40. 17	55. 6. 3	56. 32. 50	58. 0.38
12	α Aquilæ.	59. 29. 28	60. 59. 11	62. 29. 43	64. 1. 1	65. 33. 6	67. 5. 50	68. 39. 8	70.13. 1
13		71. 47. 28	73. 22. 23	74. 57. 41	76.33.23	78. 9. 29	79. 45. 53	81. 22. 30	82 59 20
14		84. 36. 24							
14		36. 52. 1	38. 32. 26	40. 13. 39	41.55.38	43. 38. 21	45. 21. 42	47. 5. 30	48.49.46
15	α Pegasi.	50. 34. 3	52. 19. 28	54. 4. 39	55.50. 2	57. 35. 38	59. 21. 20	61. 7. 3	62.52.45
16		64. 38. 28							

Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
16		21. 4. 12	22. 52. 7	24. 40. 5	26.28. 6	28. 16. 10	30. 4. 12	31. 52. 6	33.39.53
17	α Arietis.	35. 27. 32	37. 14. 56	39. 2. 5	40.48.58	42. 35. 36	44. 21. 55	46. 7. 53	47.53.30
18		49. 38. 45							
18		19. 31. 45	21. 4. 11	22. 37. 42	24.12.11	25. 47. 31	27. 23. 36	29. 0. 4	30.36.56
19	Aldebaran.	32. 14. 12	33. 51. 19	35. 28. 25	37. 5.31	38. 42. 38	40. 19. 30	41. 56. 12	43.32.43
20		45. 9. 3	46. 45. 7	48. 20. 55	49.56.28	51. 31. 46	53. 6. 45	54. 41. 27	56.15.52
21		57. 50. 0	59. 23. 48	60. 57. 20	62.30.36	64. 3. 36			
21						21. 41. 37	23. 13. 11	24. 44. 42	26.16. 9
22	Pollux.	27. 47. 33	29. 18. 51	30. 50. 1	32.21. 4	33. 52. 0	35. 22. 43	36. 53. 17	38.23.42
23		39. 53. 57	41. 24. 2	42. 53. 58	44.23.44	45. 53. 22	47. 22. 49	48. 52. 9	50.21.20
24		51. 50. 24	53. 19. 21	54. 48. 12	56.16.58	57. 45. 37			
24						20. 44. 33	22. 13. 4	23. 41. 34	25.10. 2
25		26. 38. 28	28. 6. 53	29. 35. 17	31. 3.40	32. 32. 2	34. 0. 22	35. 28. 43	36.57. 4
26	Regulus.	38. 25. 26	39. 53. 49	41. 22. 15	42.50.42	44. 19. 12	45. 47. 44	47. 16. 19	48.44.58
27		50. 13. 41	51. 42. 29	53. 11. 23	54.40 21	56. 9. 26	57. 38. 37	59. 7. 54	60.37.18
28		62. 6. 49	63. 36. 28	65. 6. 14	66.36. 9	68. 6. 12	69. 36. 23	71. 6. 43	72.37.12
29		74. 7. 51	75. 38. 40	77. 9. 39	78.40.49	80. 12. 9			

Configurations of the SATELLITES of JUPITER at Nine o' Clock at Night.



Days of the Month.	Days of the Week.	Sundays, Holidays, &c.
1	Th.	
2	F.	
3	Sa.	
4	*Su.*	*2d Sunday in Advent.*
5	M.	
6	Tu.	Nicholas.
7	W.	
8	Th.	Conception of V. Mary.
9	F.	
10	Sa.	
11	*Su.*	*3d Sunday in Advent.*
12	M.	
13	Tu.	Lucy.
14	W.	
15	Th.	
16	F.	O Sap. Camb. T. ends.
17	Sa.	Oxford Term ends.
18	*Su.*	*4th Sunday in Advent.*
19	M.	
20	Tu.	
21	W.	*St. Thomas.*
22	Th.	
23	F.	
24	Sa.	
25	*Su.*	*Chriſtmas-Day.*
26	M.	*St. Stephen.*
27	Tu.	*St. John.*
28	W.	*Innocents.*
29	Th.	
30	F.	
31	Sa.	Silveſter.

Phaſes of the Moon.

	D.	H.	M.
New Moon —	1.	8.	48
Firſt Quarter —	8.	16.	52
Full Moon —	15.	10.	36
Laſt Quarter —	23.	2.	7
New Moon —	31.	0.	39

Other Phenomena.

D.

3. ☾ ☌ ♐ 4ʰ. 25′.
☾ ☍ ♐ 15ʰ. 38′.
5. ☾ ♄ 9ʰ. 0′.
7. ☾ ♑ ♒ 10ʰ. 56′.
☿ 4 ad ♂ ♎ diff. Lat. 53′.
9. ☿ ☌ ♐ diff. Lat. 11′.
11. ☾ ☊ ♓ 5ʰ. 45′.
13. ☾ ☊ Pleiad. Im. 13ʰ. 25′.
* 15′¼ S. of ☽'ſcent.
Em. 13ʰ. 51′½. * 14′
South.
14. ☿ ☍ ♏ diff. Lat. 9′.
15. ☾ 125 ♉ Im. 5ʰ. 53′½.
* 11′¼ S. of ☽'ſcent.
Em. 6ʰ. 30′½. * 12′½
South.
☿ ☌ ♏ diff. Lat. 31′.
16. ☾ ☌ ♊ 8ʰ. 6′.
18. ☾ ☍ ♋ 11ʰ. 46′.
20. ☉ enters ♑ at 20ʰ. 47′.
22. ☾ ☋ ♌ 5ʰ. 34′.
27. ☾ ☌ ♏ 21ʰ. 13′.
28. ☾ ☍ ♏ 6ʰ. 32′.
☾ ☌ ♏ 10ʰ. 17′.
30. ☿ Stationary.

Days of the Month.	Days of the Week.	Sun's Longitude.	Sun's Right Asc. in Time.	Sun's Declin. South.	Equat. of Time. Sub.	Diff.
		S. D. M. S.	H. M. S.	D. M. S.	M. S.	S.
1	Th.	8. 9. 47. 4	16.32.30,5	21. 56. 41	10. 22,7	23,6
2	F.	8. 10. 48. 2	16.36.50,7	22. 5. 31	9. 59,1	24,3
3	Sa.	8. 11. 49. 0	16.41.11,6	22. 13. 56	9. 34,8	24,8
4	*Su.*	8. 12. 49. 59	16.45.33,0	22. 21. 54	9. 10,0	25,3
5	M.	8. 13. 50. 59	16.49.54,9	22. 29. 26	8. 44,7	25,8
6	Tu.	8. 14. 52. 0	16.54.17,3	22. 36. 32	8. 18,9	26,3
7	W.	8. 15. 53. 2	16.58.40,3	22. 43. 11	7. 52,6	26,8
8	Th.	8. 16. 54. 4	17. 3. 3,7	22. 49. 23	7. 25,8	27,2
9	F.	8. 17. 55. 6	17. 7. 27,6	22. 55. 8	6. 58,6	27,6
10	Sa.	8. 18. 56. 9	17.11.51,8	23. 0. 26	6. 31,0	27,9
11	*Su.*	8. 19. 57. 13	17.16.16,4	23. 5. 16	6. 3,1	28,3
12	M.	8. 20. 58. 17	17.20.41,3	23. 9. 39	5. 34,8	28,6
13	Tu.	8. 21. 59. 21	17.25. 6,5	23. 13. 34	5. 6,2	28,9
14	W.	8. 23. 0. 25	17.29.32,1	23. 17. 1	4. 37,3	29,1
15	Th.	8. 24. 1. 30	17.33.57,9	23. 20. 0	4. 8,2	29,3
16	F.	8. 25. 2. 36	17.38.23,8	23. 22. 32	3. 38,9	29,5
17	Sa.	8. 26. 3. 42	17.42.49,9	23. 24. 36	3. 9,4	29,7
18	*Su.*	8. 27. 4. 49	17.47.16,2	23. 26. 11	2. 39,7	29,8
19	M.	8. 28. 5. 56	17.51.42,7	23. 27. 18	2. 9,9	29,9
20	Tu.	8. 29. 7. 4	17.56. 9,3	23. 27. 56	1. 40,0	30,0
21	W.	9. 0. 8. 13	18. 0.35,9	23. 28. 7	1. 10,0	30,0
22	Th.	9. 1. 9. 22	18. 5. 2,4	23. 27. 49	0. 40,0	30,0
23	F.	9. 2. 10. 32	18. 9.29,1	23. 27. 3	0. 10,0	30,0
24	Sa.	9. 3. 11. 43	18.13.55,8	23. 25. 48	Ad: 20,0	30,0
25	*Su.*	9. 4. 12. 54	18.18.22,4	23. 24. 5	0. 50,0	29,9
26	M.	9. 5. 14. 6	18.22.48,9	23. 21. 53	1. 19,9	29,7
27	Tu.	9. 6. 15. 18	18.27.15,3	23. 19. 13	1. 49,6	29,6
28	W.	9. 7. 16. 30	18.31.41,5	23. 16. 6	2. 19,2	29,4
29	Th.	9. 8. 17. 43	18.36. 7,5	23. 12. 31	2. 48,6	29,2
30	F.	9. 9. 18. 56	18.40.33,3	23. 8. 27	3. 17,8	28,9
31	Sa.	9. 10. 20. 9	18.44.58,8	23. 3. 56	3. 46,7	

Days of the Month.	Semidiameter of the Sun.	Time of D° passing the Meridian.	Hourly Motion of the Sun.	Logarithm of the Sun's Distance.	Place of the Moon's Node.
	M. S.	M. S.	M. S.		S. D. M.
1	16. 17,1	1. 10,2	2. 32,2	9,993584	10. 5. 37
7	16. 17,9	1. 10,7	2. 32,5	9,993232	10. 5. 18
13	16. 18,5	1. 11,0	2. 32,7	9,992949	10. 4. 59
19	16. 19,0	1. 11,1	2. 32,8	9,992764	10. 4. 40
25	16. 19,2	1. 11,1	2. 32,9	9,992676	10. 4. 21

Eclipses of the SATELLITES of JUPITER.

I. Satellite. Emerſions.		II. Satellite. Emerſions.		III. Satellite.		
Days	H. M. S.	Days	H. M. S.	Days	H. M. S.	
*2	11. 49. 47	*1	6. 27. 36	4	0. 28. 36	I
*4	6. 17. 59	4	19. 44. 37	4	2. 36. 40	E
6	0. 46. 10	*8	9. 1. 28	11	4. 28. 24	I
7	19. 14. 20	11	22. 18. 12	*11	6. 35. 9	E
9	13. 42. 29	*15	11. 34. 50	*18	8. 28. 4	I
*11	8. 10. 38	19	0. 51. 23	*18	10. 33. 24	E
13	2. 38. 45	22	14. 7. 52	25	12. 27. 33	I
14	21. 6. 50	26	3. 24. 18	25	14. 31. 31	E
16	15. 34. 57	29	16. 40. 46			
*18	10. 3. 3			IV. Satellite. Conj.		
20	4. 31. 9					
21	22. 59. 14			1	16. 2	Sup.
23	17. 27. 19			10	0. 33	Inf.
25	11. 55. 23			*18	9. 13	Sup.
*27	6. 23. 28			26	18. 13	Inf.
29	0. 51. 35					
30	19. 19. 44					

Days.	Heliocentric Longitude.	Heliocentric Latitude.	Geocentric Longitude.	Geocentric Latitude.	Declination.	Paſſage over Merid.
	S. D. M.	D. M.	S. D. M.	D. M.	D. M.	H. M.
MERCURY. Gr. Elong. 22d.						
1	9. 16. 28	6. 7 S	8. 21. 0	2. 0 S	25. 9 S	0. 48
4	9. 25. 40	6. 35	8. 25. 37	2. 9	25. 33	0. 55
7	10. 5. 22	6. 53	9. 0. 12	2. 15	25. 44	1. 2
10	10. 15. 44	7. 0	9. 4. 43	2. 17	25. 41	1. 9
13	10. 26. 54	6. 52	9. 9. 9	2. 15	25. 24	1. 16
16	11. 9. 2	6. 27	9. 13. 25	2. 7	24. 54	1. 21
19	11. 22. 17	5. 38	9. 17. 24	1. 53	24. 12	1. 25
22	0. 6. 50	4. 25	9. 20. 55	1. 30	23. 19	1. 26
25	0. 22. 43	2. 45	9. 23. 43	0. 58	22. 20	1. 25
28	1. 9. 56	0. 43 S	9. 25. 28	0. 16 S	21. 20	1. 18
31	1. 28. 12	1. 31 N	9. 25. 44	0. 36 N	20. 26	1. 5
VENUS.						
1	6. 5. 53	3. 10 N	7. 13. 23	1. 34 N	14. 23 S	22. 14
7	6. 15. 34	2. 55	7. 20. 52	1. 25	16. 37	22. 17
13	6. 25. 14	2. 35	7. 28. 22	1. 14	18. 36	22. 21
19	7. 4. 52	2. 10	8. 5. 52	1. 2	20. 18	22. 25
25	7. 14. 29	1. 42	8. 13. 23	0. 48	21. 39	22. 30
MARS.						
1	2. 7. 58	0. 38 N	2. 4. 39	1. 47 N	22. 50 N	11. 34
7	2. 11. 5	0. 43	2. 2. 34	2. 0	22. 39	10. 59
13	2. 14. 9	0. 49	2. 0. 49	2. 10	22. 27	10. 25
19	2. 17. 12	0. 54	1. 29. 29	2. 17	22. 18	9. 53
25	2. 20. 13	0. 59	1. 28. 37	2. 22	22. 12	9. 23
JUPITER. □ 26d. 20h.						
1	0. 15. 9	1. 19 S	0. 4. 45	1. 27 S	0. 34 N	7. 46
7	0. 15. 42	1. 19	0. 4. 52	1. 25	0. 38	7. 20
13	0. 16. 15	1. 19	0. 5. 5	1. 24	0. 44	6. 55
19	0. 16. 48	1. 18	0. 5. 26	1. 22	0. 54	6. 29
25	0. 17. 21	1. 18	0. 5. 54	1. 20	1. 7	6. 4
SATURN.						
1	10. 6. 10	0. 37 S	10. 1. 42	0. 35 S	20. 22 S	3. 43
7	10. 6. 21	0. 38	10. 2. 15	0. 35	20. 15	3. 19
13	10. 6. 32	0. 38	10. 2. 50	0. 36	20. 7	2. 55
19	10. 6. 43	0. 39	10. 3. 27	0. 36	19. 59	2. 31
25	10. 6. 54	0. 39	10. 4. 5	0. 36	19. 50	2. 8

Days of the Month.	Days of the Week.	Moon's Longitude at Noon.	Moon's Longitude at Midnight.	Moon's Latitude at Noon.	Moon's Latitude at Midn.
		S. D. M. S.	S. D. M. S.	D. M. S.	D. M. S.
1	Th.	8. 5.33. 4	8. 11.50. 0	4.20.37 S	4. 1.44 S
2	F.	8. 18. 9.43	8. 24.32.14	3.39.41	3.14.43
3	Sa.	9. 0.57.32	9. 7.25.35	2.47. 3	2.16.59
4	*Su.*	9. 13.56.24	9. 20.29.59	1.44.54	1.11. 7
5	M.	9. 27. 6.24	10. 3.45.40	0.36. 6 S	0. 0.19 S
6	Tu.	10. 10.27.53	10. 17.13. 7	0.35.48 N	1.11.41 N
7	W.	10. 24. 1.27	11. 0.53. 0	1.46.51	2.20.48
8	Th.	11. 7.47.45	11. 14.45.50	2.52.57	3.22.48
9	F.	11. 21.47. 7	11. 28.51.37	3.49.51	4.13.34
10	Sa.	0. 5.59. 4	0. 13. 9.18	4.33.30	4.49.19
11	*Su.*	0. 20.21.53	0. 27.36.25	5. 9.37	5. 7.14
12	M.	1. 4.52.14	1. 12. 8.44	5. 8.55	5. 5.39
13	Tu.	1. 19.25.11	1. 26.40.45	4.57.24	4.44.25
14	W.	2. 3.54.35	2. 11. 5.54	4.26.54	4. 5.15
15	Th.	2. 18.13.52	2. 25.17.48	3.39.52	3.11.20
16	F.	3. 2.17. 8	3. 9.11.19	2.40.10	2. 6.56
17	Sa.	3. 16. 0. 2	3. 22.43. 2	1.32.20	0.56.52 N
18	*Su.*	3. 29.20.16	4. 5.51.47	0.21. 5 N	0.14.30 S
19	M.	4. 12.17.45	4. 18.38.23	0.49.26 S	1.23.18
20	Tu.	4. 24.54. 5	5. 1. 5.16	1.55.44	2.26.26
21	W.	5. 7.12.28	5. 13.16.14	2.55. 7	3.21.34
22	Th.	5. 19.17. 6	5. 25.15.46	3.45.33	4. 6.57
23	F.	6. 1.12.46	6. 7. 8.49	4.25.33	4.41.17
24	Sa.	6. 13. 4.29	6. 19. 0.26	4.53.58	5. 3.31
25	*Su.*	6. 24.57.13	7. 0.55.27	5. 9.51	5.12.50
26	M.	7. 6.55.37	7. 12.58.13	5.12.25	5. 8.33
27	Tu.	7. 19. 3.41	7. 25.12.22	5. 1.11	4.50.18
28	W.	8. 1.24.34	8. 7.40.32	4.35.55	4.18. 5
29	Th.	8. 14. 0.25	8. 20.24.18	3.56.53	3.32.30
30	F.	8. 26.52.16	9. 3.24.12	3. 5. 7	2.35. 1
31	Sa.	9. 10. 0. 3	9. 16.39.39	2. 2.31	1.28. 0

Days of the Month.	Days of the Week.	☽'s Age.	☽'s Passage over Merid.	☽'s Right Ascen. at Noon.	☽'s Right Ascen. at Midn.	☽'s Declination at Noon.	☽'s Declination at Midn.
			H. M.	D. M.	D. M.	D. M.	D. M.
1	Th.	1	0	242. 47	249. 43	25. 32 S	26. 14 S
2	F.	2	0. 32	256. 46	263. 54	26. 35	26. 36
3	Sa.	3	1. 27	271. 4	278. 14	26. 15	25. 32
4	Su.	4	2. 21	285. 20	292. 22	24. 28	23. 4
5	M.	5	3. 14	299. 17	306. 5	21. 21	19. 20
6	Tu.	6	4. 5	312. 45	319. 18	17. 4	14. 33
7	W.	7	4. 54	325. 44	332. 6	11. 50	8. 58
8	Th.	8	5. 42	338. 24	344. 40	5. 59 S	2. 53 S
9	F.	9	6. 29	350. 57	357. 16	0. 15 N	3. 25 N
10	Sa.	10	7. 17	3. 41	10. 12	6. 34	9. 38
11	Su.	11	8. 8	16. 52	23. 43	12. 36	15. 24
12	M.	12	9. 3	30. 46	38. 2	18. 0	20. 20
13	Tu.	13	10. 1	45. 31	53. 10	22. 21	24. 2
14	W.	14	11. 1	60. 59	68. 54	25. 19	26. 11
15	Th.	15	12. 2	76. 51	84. 45	26. 36	26. 34
16	F.	16	13. 2	92. 33	100. 10	26. 7	25. 15
17	Sa.	17	13. 58	107. 33	114. 42	24. 2	22. 29
18	Su.	18	14. 49	121. 35	128. 11	20. 39	18. 36
19	M.	19	15. 35	134. 32	140. 38	16. 20	13. 56
20	Tu.	20	16. 18	146. 32	152. 15	11. 25	8. 49
21	W.	21	16. 59	157. 50	163. 18	6. 10	3. 29 N
22	Th.	22	17. 38	168. 41	174. 1	0. 47 N	1. 54 S
23	F.	23	18. 17	179. 21	184. 42	4. 33 S	7. 9
24	Sa.	24	18. 58	190. 6	195. 35	9. 41	12. 8
25	Su.	25	19. 41	201. 10	206. 54	14. 28	16. 41
26	M.	26	20. 27	212. 47	218. 51	18. 45	20. 38
27	Tu.	27	21. 16	225. 7	231. 35	22. 20	23. 47
28	W.	28	22. 8	238. 15	245. 6	24. 58	25. 52
29	Th.	29	23. 3	252. 7	259. 16	26. 26	26. 39
30	F.	30	23. 59	266. 31	273. 47	26. 31	26. 0
31	Sa.	31	0	281. 3	288. 16	25. 7	23. 53

Days of the Month.	Days of the Week.	Semid. ☽ at Noon.	Semid. ☽ at Midnight.	Hor. Par. ☽ at Noon.	Hor. Par. ☽ at Midnight.	Proport. Logar. at Noon.	Proport. Logar. at Midn.
		M. S.	M. S.	M. S.	M. S.		
1	Th.	15. 8	15. 11	55. 32	55. 45	5107	5090
2	F.	15. 15	15. 20	56. 0	56. 15	5071	5051
3	Sa.	15. 24	15. 28	56. 30	56. 45	5032	5013
4	*Su.*	15. 32	15. 36	56. 59	57. 14	4995	4976
5	M.	15. 40	15. 44	57. 28	57. 43	4958	4940
6	Tu.	15. 47	15. 51	57. 57	58. 11	4922	4905
7	W.	15. 55	15. 59	58. 25	58. 38	4887	4871
8	Th.	16. 2	16. 6	58. 51	59. 4	4855	4839
9	F.	16. 9	16. 12	59. 16	59. 27	4824	4811
10	Sa.	16. 14	16. 17	59. 36	59. 45	4800	4785
11	*Su.*	16. 19	16. 20	59. 52	59. 56	4781	4776
12	M.	16. 20	16. 20	59. 58	59. 58	4773	4773
13	Tu.	16. 20	16. 18	59. 56	59. 50	4776	4783
14	W.	16. 16	16. 13	59. 42	59. 31	4793	4806
15	Th.	16. 9	16. 5	59. 17	59. 1	4823	4843
16	F.	16. 0	15. 54	58. 42	58. 21	4866	4892
17	Sa.	15. 48	15. 42	57. 59	57. 36	4919	4949
18	*Su.*	15. 35	15. 29	57. 13	56. 50	4977	5006
19	M.	15. 23	15. 17	56. 28	56. 6	5035	5063
20	Tu.	15. 12	15. 7	55. 46	55. 27	5089	5114
21	W.	15. 2	14. 58	55. 10	54. 56	5136	5154
22	Th.	14. 55	14. 52	54. 43	54. 34	5171	5183
23	F.	14. 50	14. 49	54. 27	54. 23	5193	5198
24	Sa.	14. 49	14. 49	54. 21	54. 22	5201	5199
25	*Su.*	14. 50	14. 52	54. 26	54. 32	5194	5186
26	M.	14. 54	14. 57	54. 40	54. 50	5175	5162
27	Tu.	15. 0	15. 4	55. 2	55. 17	5146	5127
28	W.	15. 8	15. 13	55. 32	55. 49	5107	5085
29	Th.	15. 17	15. 22	56. 6	56. 24	5063	5040
30	F.	15. 27	15. 32	56. 42	57. 1	5017	4992
31	Sa.	15. 37	15. 42	57. 19	57. 37	4970	4947

Distances of ☽'s Center from Sun, and from Stars east of her.

Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M S.	D. M. S.	D. M. S.	D. M. S.
3		81. 6. 4	79. 32. 50	77. 59. 29	76.25.58	74. 52. 20	73. 18. 34	71. 44. 42	70.10.44
4	α Pegasi.	68. 36. 39	67. 2. 28	65. 28. 14	63.53.55	62. 19. 33	60. 45. 7	59. 10. 41	57.36.15
5		56. 1. 48	54. 27. 22	52. 53. 2	51.18.47	49. 44. 37	48. 10. 35	46. 36. 45	45. 3. 7
6		43. 29. 40							
6		84. 11. 52	82. 30. 48	80. 49. 34	79. 8. 9	77. 26. 34	75. 44. 48	74. 2. 51	72.20.44
7	α Arietis.	70. 38. 26	68. 55. 57	67. 13. 18	65.30.28	63. 47. 28	62. 4. 18	60. 20. 59	58.37.29
8		56. 53. 50	55. 10. 1	53. 26. 2	51.41.54	49. 57. 37	48. 13. 11	46. 28. 38	44.43.57
9		42. 59. 8	41. 14. 12	39. 29. 9	37.44. 0	35. 58. 45			
9						68. 33. 4	66. 48. 28	65. 3. 45	63.18.56
10	Aldebaran.	61. 34. 0	59. 48. 59	58. 3. 56	56.18.49	54. 33. 39	52. 48. 27	51. 3. 16	49.18. 7
11		47. 32. 59	45. 47. 52	44. 2. 53	42.18. 2	40. 33. 19	38. 48. 44	37. 4. 28	35.20.34
12		33. 36. 59	31. 53. 39	30. 11. 4	28.29.14	26. 48. 8	25. 8. 8	23. 29. 18	21.51.47
13		20. 15. 42							
13		60. 32. 5	58. 44. 6	56. 56. 13	55. 8.25	53. 20. 42	51. 33. 7	49. 45. 41	47.58.25
14	Pollux.	46. 11. 18	44. 24. 22	42. 37. 39	40.51.11	39. 4. 57	37. 18. 58	35. 33. 19	33.48. 1
15		32. 3. 3	30. 18. 29	28. 34. 23	26.50.45	25. 7. 35			

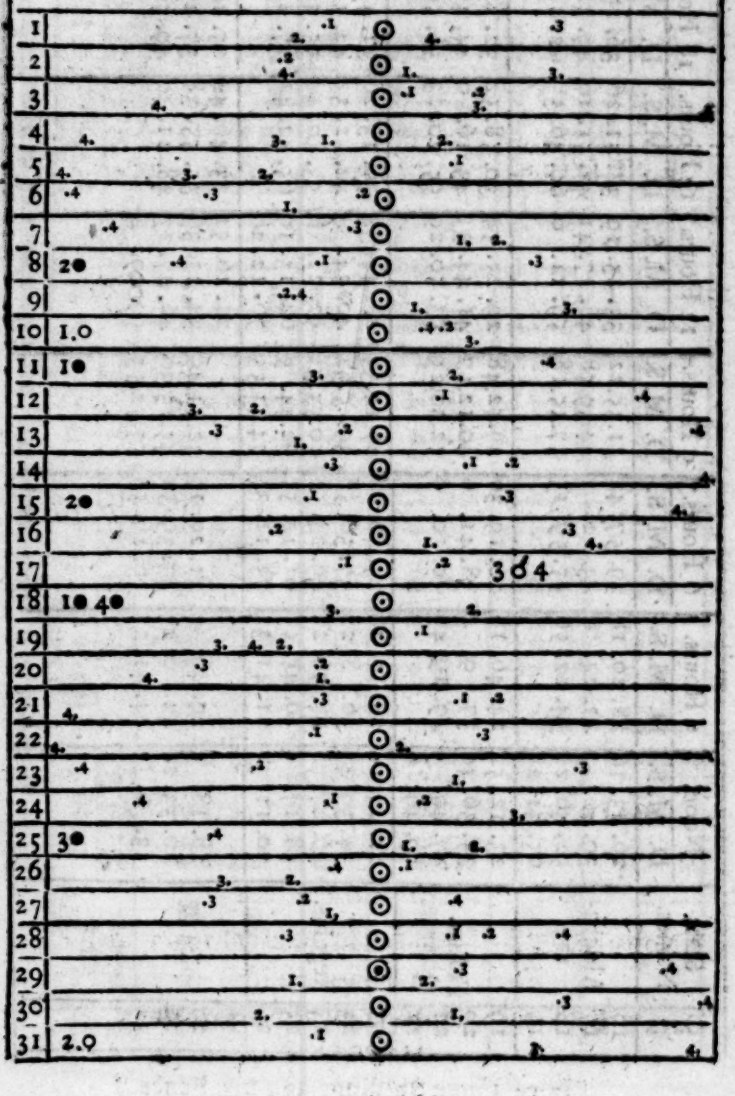
Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
15						61. 35. 13	59. 49. 56	58. 4. 56	56.20.14
16	Regulus.	54. 35. 50	52. 51. 44	51. 7. 58	49.24.30	47. 41. 22	45. 58. 34	44. 16. 6	42.33.59
17		40. 52. 13	39. 10. 49	37. 29. 47	35.49. 7	34. 8. 50	32. 28. 55	30. 49. 23	29.10.16
18		27. 31. 31	25. 53. 12	24. 15. 18	22.37.48	21. 0. 44			
18						74. 59. 49	73. 22. 33	71. 45. 39	70. 9. 6
19		68. 32. 54	66. 57. 3	65. 21. 32	63.46.21	62. 11. 30	60. 36. 58	59. 2. 45	57.28.51
20	Spica ♍	55. 55. 16	54. 22. 0	52. 49. 1	51.16.20	49. 43. 56	48. 11. 49	46. 39. 57	45. 8.21
21		43. 37. 1	42. 5. 55	40. 35. 4	39. 4.27	37. 34. 4	36. 3. 55	34. 33. 58	33. 4.14
22		31. 34. 43	30. 5. 22	28. 36. 13	27. 7.16	25. 38. 31	24. 9. 58	22. 41. 37	21.13.27
23		19. 45. 30							
20				121. 20. 36	119.55.31	118. 30. 41	117. 6. 7	115. 41. 47	114.17.42
21		112. 53. 52	111. 30. 16	110. 6. 51	108.43.41	107. 20. 42	105. 57. 56	104. 35. 21	103.12.56
22		101. 50. 42	100. 28. 37	99. 6. 40	97.44.51	96. 23. 11	95. 1. 38	93. 40. 12	92.18.51
23	The Sun.	90. 57. 36	89. 36. 25	88. 15. 17	86.54.13	85. 33. 12	84. 12. 14	82. 51. 17	81.30.20
24		80. 9. 25	78. 48. 29	77. 27. 31	76. 6.32	74. 45. 31	73. 24. 28	72. 3. 22	70.42.12
25		69. 20. 58	67. 59. 39	66. 38. 13	65.16.42	63. 55. 4	62. 33. 19	61. 11. 26	59.49.25
26		58. 27. 15	57. 4. 56	55. 42. 27	54.19.48	52. 56. 59	51. 33. 59	50. 10. 47	48.47.24
27		47. 23. 49	46. 0. 2	44. 36. 1	43.11.47	41. 47. 20			

Distances of ☽'s Center from Sun, and from Stars west of her.

Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
4						37. 10. 28	38. 41. 26	40. 12. 36	41. 44. 0
5		43. 15. 37	44. 47. 27	46. 19. 29	47. 51. 44	49. 24. 11	50. 56. 50	52. 29. 42	54. 2. 45
6		55. 36. 1	57. 9. 28	58. 43. 7	60. 16. 58	61. 51. 0	63. 25. 14	64. 59. 39	66. 34. 16
7	The Sun.	68. 9. 5	69. 44. 6	71. 19. 17	72. 54. 41	74. 30. 15	76. 6. 0	77. 41. 56	79. 18. 3
8		80. 54. 22	82. 30. 53	84. 7. 35	85. 44. 27	87. 21. 31	88. 58. 45	90. 36. 9	92. 13. 44
9		93. 51. 30	95. 29. 27	97. 7. 33	98. 45. 50	100. 24. 16	102. 2. 52	103. 41. 37	105. 20. 31
10		106. 59. 35	108. 38. 51	110. 18. 11	111. 57. 41	113. 37. 17	115. 17. 2	116. 56. 54	118. 36. 52
11		120. 16. 58							
8						50. 41. 49	52. 3. 14	53. 25. 40	54. 49. 8
9	α Aquilæ.	56. 13. 37	57. 39. 1	59. 5. 14	60. 32. 14	62. 0. 3	63. 28. 30	64. 57. 34	66. 27. 13
10		67. 57. 29	69. 28. 14	70. 59. 26	72. 31. 4	74. 3. 8	75. 35. 35	77. 8. 19	78. 41. 21
11		80. 14. 40							
11		32. 26. 45	34. 1. 0	35. 36. 22	37. 12. 46	38. 50. 9	40. 28. 26	42. 7. 26	43. 47. 7
12	α Pegasi.	45. 27. 31	47. 8. 21	48. 49. 36	50. 31. 17	52. 13. 24	53. 55. 47	55. 38. 25	57. 21. 18
13		59. 4. 25	60. 47. 42	62. 31. 5	64. 14. 33	65. 58. 7			
13						22. 25. 35	24. 11. 34	25. 57. 40	27. 43. 53
14	α Arietis.	29. 30. 14	31. 16. 38	33. 3. 1	34. 49. 22	36. 35. 43	38. 21. 56	40. 8. 1	41. 53. 59
15		43. 39. 49	45. 25. 27	47. 10. 53	48. 56. 8	50. 41. 10	52. 25. 59	54. 10. 32	55. 54. 50
16		57. 38. 53							

Days	Stars Names.	Noon. D. M. S.	5 Hours. D. M. S.	6 Hours. D. M. S.	9 Hours. D. M. S.	12 Hours. D. M. S.	15 Hours. D. M. S.	18 Hours. D. M. S.	21 Hours. D. M. S.
16		26. 43. 16	28. 20. 18	29. 57. 42	31. 35. 22	33. 13. 19	34. 51. 26	36. 29. 35	38. 7. 48
17	Aldebaran.	39. 46. 3	41. 24. 9	43. 2. 7	44. 39. 58	46. 17. 41	47. 55. 10	49. 32. 27	51. 9. 30
18		52. 46. 21	54. 22. 56	55. 59. 15	57. 35. 18	59. 11. 6	60. 46. 37	62. 21. 50	63. 56. 45
19		65. 31. 23							
19		23. 12. 54	24. 46. 18	26. 19. 36	27. 52. 48	29. 25. 54	30. 58. 52	32. 31. 41	34. 4. 20
20	Pollux.	35. 36. 49	37. 9. 4	38. 41. 6	40. 12. 57	41. 44. 35	43. 16. 0	44. 47. 14	46. 18. 15
21		47. 49. 5	49. 19. 43	50. 50. 9	52. 20. 25	53. 50. 29	55. 20. 23	56. 50. 7	58. 19. 42
22		59. 49. 6							
22		22. 47. 59	24. 17. 16	25. 46. 28	27. 15. 33	28. 44. 32	30. 13. 26	31. 42. 16	33. 11. 1
23		34. 39. 43	36. 8. 22	37. 36. 58	39. 5. 32	40. 34. 4	42. 2. 33	43. 31. 2	44. 59. 30
24	Regulus.	46. 27. 58	47. 56. 27	49. 24. 58	50. 53. 31	52. 22. 6	53. 50. 42	55. 19. 25	56. 48. 10
25		58. 17. 0	59. 45. 55	61. 14. 57	62. 44. 5	64. 13. 19	65. 42. 41	67. 12. 10	68. 41. 49
26		70. 11. 35	71. 41. 31	73. 11. 37	74. 41. 53	76. 12. 20			
26						22. 16. 51	23. 46. 44	25. 16. 54	26. 47. 20
27	Spica ♍	28. 18. 3	29. 49. 2	31. 20. 17	32. 51. 49	34. 23. 36	35. 55. 38	37. 27. 56	39. 0. 31
28		40. 33. 21	42. 6. 27	43. 39. 51	45. 13. 30	46. 47. 27	48. 21. 40	49. 56. 10	51. 30. 57
29		53. 6. 1	54. 41. 21	56. 16. 58	57. 52. 53	59. 29. 4			

Configurations of the SATELLITES of JUPITER at Eight o' Clock in the Evening.



GEORGIAN PLANET.

1787.	Days.	Heliocentric Long.	Heliocentric Lat.	Geocentric Long.	Geocentric Lat.	Declin.	Paſſage Merid.
		S. D. M.	D. M.	S. D. M.	D. M.	D. M.	H. M.
January.	1	3. 23. 24	0. 30N.	3. 24. 4	0. 32N	21. 51N.	12. 53
♃ 13d. 4½h.	16	3. 23. 35	0. 30	3. 23. 25	0. 32	21. 57	11. 46
February.	1	3. 23. 47	0. 30	3. 22. 45	0. 32	22. 4	10. 36
	16	3. 23. 58	0. 30	3. 22. 11	0. 32	22. 10	9. 35
March.	1	3. 24. 8	0. 30	3. 21. 49	0. 32	22. 13	8. 44
	16	3. 24. 19	0. 31	3. 21. 33	0. 31	22. 15	7. 48
April.	1	3. 24. 31	0. 31	3. 21. 29	0. 31	22. 16	6. 49
□ 11d. 1¾h.	16	3. 24. 42	0. 31	3. 21. 37	0. 31	22. 14	5. 55
May.	1	3. 24. 53	0. 31	3. 21. 57	0. 30	22. 11	5. 0
	16	3. 25. 5	0. 31	3. 22. 28	0. 30	22. 5	4. 4
June.	1	3. 25. 17	0. 31	3. 23. 10	0. 30	21. 58	3. 3
	16	3. 25. 28	0. 31	3. 23. 57	0. 30	21. 50	2. 5
July.	1	3. 25. 39	0. 31	3. 24. 49	0. 30	21. 41	1. 6
♂ 18d. 5h.	16	3. 25. 50	0. 31	3. 25. 44	0. 30	21. 31	0. 9
Auguſt.	1	3. 26. 2	0. 32	3. 26. 43	0. 30	21. 20	23. 6
	16	3. 26. 14	0. 32	3. 27. 35	0. 30	21. 10	22. 13
September.	1	3. 26. 26	0. 32	3. 28. 27	0. 31	21. 0	21. 18
	16	3. 26. 37	0. 32	3. 29. 8	0. 31	20. 52	20. 27
October.	1	3. 26. 48	0. 32	3. 29. 41	0. 31	20. 45	19. 35
□ 23d. 2¼h.	16	3. 27. 0	0. 32	4. 0. 3	0. 32	20. 41	18. 41
November.	1	3. 27. 12	0. 32	4. 0. 13	0. 33	20. 39	17. 41
	16	3. 27. 23	0. 32	4. 0. 10	0. 33	20. 41	16. 40
December.	1	3. 27. 34	0. 33	3. 29. 56	0. 34	20. 44	15. 36
	16	3. 27. 46	0. 33	3. 29. 30	0. 34	20. 50	14. 28
	31	3. 27. 58	0. 33	3. 28. 58	0. 34	20. 57	13. 19

GEORGIAN PLANET.

1786.	Days.	Heliocentric Long.	Heliocentric Lat.	Geocentric Long.	Geocentric Lat.	Declin.	Passage Merid
		S. D. M.	D. M.	S. D. M.	D. M.	D. M.	H. M.
January.	1	3. 18. 51	0. 27N.	3. 19. 16	0. 29N.	22. 33N.	12. 32
☌ 8d. 10½h	16	3. 19. 2	0. 27	3. 18. 37	0. 29	22. 39	11. 24
February.	1	3. 19. 14	0. 27	3. 17. 58	0. 29	22. 44	10. 15
	16	3. 19. 25	0. 28	3. 17. 27	0. 29	22. 48	9. 13
March.	1	3. 19. 35	0. 28	3. 17. 7	0. 29	22. 50	8. 23
	16	3. 19. 46	0. 28	3. 16. 55	0. 28	22. 52	7. 27
April.	1	3. 19. 58	0. 28	3. 16. 55	0. 28	22. 52	6. 29
□ 6d. 3½h	16	3. 20. 9	0. 28	3. 17. 7	0. 28	22. 50	5. 35
May.	1	3. 20. 21	0. 28	3. 17. 30	0. 28	22. 47	4. 40
	16	3. 20. 32	0. 28	3. 18. 4	0. 27	22. 42	3. 45
June.	1	3. 20. 44	0. 28	3. 18. 49	0. 27	22. 36	2. 43
	16	3. 20. 55	0. 28	3. 19. 38	0. 27	22. 29	1. 45
July.	1	3. 21. 6	0. 29	3. 20. 31	0. 27	22. 21	0. 47
☍ 13d. 3½h	16	3. 21. 17	0. 29	3. 21. 26	0. 27	22. 12	23. 46
August.	1	3. 21. 29	0. 29	3. 22. 24	0. 27	22. 3	22. 47
	16	3. 21. 40	0. 29	3. 23. 15	0. 28	21. 55	21. 53
September.	1	3. 21. 52	0. 29	3. 24. 4	0. 28	21. 47	20. 58
	16	3. 22. 4	0. 29	3. 24. 43	0. 28	21. 40	20. 7
October.	1	3. 22. 15	0. 29	3. 25. 12	0. 29	21. 36	19. 15
□ 18d. 6h	16	3. 22. 26	0. 29	3. 25. 30	0. 29	21. 33	18. 21
November.	1	3. 22. 38	0. 30	3. 25. 36	0. 30	21. 32	17. 20
	16	3. 22. 49	0. 30	3. 25. 29	0. 30	21. 34	16. 19
December.	1	3. 23. 0	0. 30	3. 25. 11	0. 31	21. 38	15. 15
	16	3. 23. 12	0. 30	3. 24. 42	0. 31	21. 43	14. 7
	31	3. 23. 23	0. 30	3. 24. 7	0. 32	21. 50	12. 58

EXPLANATION and USE OF THE ARTICLES CONTAINED IN THE ASTRONOMICAL and NAUTICAL EPHEMERIS.

IT may be proper first to premise, that all the Calculations of the Ephemeris are made according to apparent Time by the Meridian of the Royal Observatory at Greenwich: And the Sun's, Planet's, and Moon's Places, with the Particulars depending on them in the 2d, 4th, 5th, 6th, and 7th Pages of each Month, are computed to the Instant of apparent Noon, or that of the Sun's Centre passing the Meridian of Greenwich.

Apparent Time, at any Place, is that deduced immediately from the Sun, whether from the Observation of his passing the Meridian, from his Altitude observed at a Distance from the Meridian, or from his observed Rising or Setting. This Time is different from that shewn by Clocks and Watches well regulated at Land, which is called equated or mean Time. This will be explained when we come to treat of the Equation of Time.

The Day is here supposed, according to the Method of Astronomers, to begin at Noon, or 12 Hours later than the civil Day of the same Denomination, and to be counted up to 24 Hours, or the succeeding Noon, when the next Day begins. Thus the Day of the Month and the Hour of the Day are the

ſame in this Method as in the civil Account at Noon, and from Noon till Midnight; but from Midnight till Noon they differ; for whereas in the civil Account a freſh Day is ſuppoſed to begin at Midnight, and the Hours to begin over again, in this Method the Day is ſtill continued beyond Midnight, and the Reckoning of the Hours is continued up to 24. Thus the Diſtances put down to January 10, 15 Hours belong to January 11 at Three in the Morning by civil Reckoning.

There are 12 Pages for every Month. The firſt Column of the firſt Page of each Month contains the Day of the Month; the ſecond, the Day of the Week expreſſed conciſely by the initial Letter or Letters, *Su.* ſtanding for Sunday, M. for Monday, Tu. for Tueſday, W. for Wedneſday, Th. for Thurſday, F. for Friday, and Sa. for Saturday: The third Column exhibits the Sundays and Feſtivals of the Church of England, and other remarkable Days: The laſt Column ſhews at Top the Moon's Phaſes, or the Times of new and full Moon, and of the firſt and laſt Quarter or two Quadratures with the Sun: Beneath are contained miſcellaneous Phænomena, namely, Eclipſes of the Sun and Moon, and Occultations of Planets or fixed Stars not leſs than the fourth Magnitude, by the Moon, as they ſhould happen at Greenwich by the Tables; the Conjunctions of the Moon with all Stars not leſs than the fourth Magnitude, which can be Occultations any where on the Globe, between the Latitudes of 60°. North and 40°. South: The Entrance of the Sun into the ſeveral Signs, and any other remarkable Phænomena.

The Stars are expreſſed by Bayer's Characters of Reference. The Conjunction of the Moon or a Planet with a Star, is denoted by prefixing the Character of the Moon or Planet to that of the Star; the Time of the Conjunction being placed immediately after. The Caſe is the ſame with reſpect to the Occultation of a Star or Planet by the Moon, only this is further diſtinguiſhed by the Addition of Im. or Immerſion, to ſignify the Diſappearance behind the Moon; and Em. or Emerſion, to ſignify the Re-appearance of the ſame. Thus 8^d ☽ ☌ ♍ $16^h.22'$. ſignifies that the Moon will be in Conjunction with the Star ☌ ♍ on the Eighth Day at $16^h.22'$ excluſive of Parallax: And 10^d. ☽ ☍ ♊ Imm. $9^h.14'$. Em. $10^h.23'$ ſignifies that the Moon will eclipſe ☍ ♊ on the 10th Day, the Immerſion being at $9^h.14'$. and the Emerſion at $10^h.23'$. apparent Time at Greenwich.

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The Occultations ſet down are thoſe only viſible at Greenwich; the Circumſtances of which will commonly not differ very widely in moſt Parts of the Kingdom; but in very diſtant Places they will differ very much, owing to the Change of the Moon's Parallax, or it may become no Occultation at all: The like may be ſaid of Eclipſes of the Sun.

Eclipſes of the Sun, and Occultations of fixed Stars by the Moon, if obſerved in Places whoſe Latitude and Longitude are well determined, may be applied to the Correction of the Lunar Tables; but if made in Places whoſe Latitude only is well known, may be applied to the Determination of the Longitude of the Place; but for this Purpoſe an accurate Calculation muſt be made of the Moon's Parallaxes in Longitude and Latitude, which makes this Method of ſettling the Longitudes of Places, though a very accurate one, leſs convenient in Uſe for Perſons not much verſed in aſtronomical Calculations. However, this ought not to diſcourage Travellers or Mariners from endeavouring to make theſe Obſervations as often and as carefully as poſſible, when they ſhall happen to be at any Place whoſe Longitude they have Reaſon to think has not been well ſettled; ſince the neceſſary Calculations may be made at any Time afterwards by themſelves, at leiſure, or referred to the Skill of Aſtronomers and Mathematicians.

Eclipſes of the Moon are not liable to this Inconvenience; the Longitude of any Place, where an Eclipſe has been obſerved, being deduced immediately by taking the Difference of the Time of the Obſervation and that ſet down in the Ephemeris, and converting it into Degrees, at the Rate of 15° to One Hour, &c. or more briefly by Table Pages 6, 7, 8, of the Tables requiſite to be uſed with the Ephemeris. But, as the Beginning or Ending of an Eclipſe of the Moon cannot be generally obſerved nearer than One Minute, and ſometimes Two or Three Minutes of Time, the Longitudes of Places cannot be certainly determined by this Method from a ſingle Obſervation of the Beginning or End nearer than a Degree. It is unneceſſary to mention that even this Point of Exactneſs will often be of great Service. If both the Beginning and End of the Eclipſe be obſerved, a greater Degree of Exactneſs will be attained.

The Conjunctions of the Moon with the Planets, or fixed Stars not leſs than the fourth Magnitude, which may prove

Occultations in ſome inhabited Parts of the Globe, are evidently deſigned to inſtruct Mariners or Travellers to look out frequently for ſuch Obſervations; which if they happen to prove Occultations, and are carefully obſerved, will afford a certain Means of determining the Longitude of the Place of Obſervation.

The Two firſt Columns of the Second Page of the Month contain the Day of the Month and Week as before; next follow the Sun's Longitude, right Aſcenſion in Time, Declination, and the Equation of Time, with the Difference from Day to Day.

The Longitude of the Sun is made uſe of in moſt of the ſucceeding Calculations of the Ephemeris, and may ſerve either to verify them, or to make other ſimilar Calculations at a different Time of the Day. Particularly it may ſerve, with the Help of the Moon's Longitude, to find the Diſtance of the Moon from the Sun at any Time, independent of the Diſtances contained in the 8th, 9th, 10th, and 11th Pages of the Month. To find the Sun's Longitude at any Time different from Noon, Proportion muſt be made according to its daily Increaſe: Saying as 24^h. is to the Hour from Noon reckoned by the Meridian of Greenwich, ſo is the daily Variation of the Sun's Longitude, to a fourth Number; which added to the Sun's Longitude at the preceding Noon, gives the true Longitude at the given Time.

If the Time given be that of a Meridian different from Greenwich, it muſt be firſt reduced thereto, by adding or ſubſtracting the Difference of Longitude turned into Time (at the Rate of One Hour to 15°, and One Minute of Time to 15 Minutes, or more briefly by Pages 6, 7, and 8, of the requiſite Tables) according as the Place is to the Weſt or to the Eaſt of Greenwich. Example: Suppoſe any one ſhould want to know the Sun's Longitude, January 19, 1767, at 4^h. $35'$. being in 21°. 15′, Longitude Eaſt of Greenwich. The Difference of Longitude turned into Time by Table Page 6, is 1^h. $25'$ which ſubſtracted from 4^h. $35'$, becauſe the Place is Eaſt of Greenwich, leaves 3^h. $10'$, for the Time reduced to the Meridian of Greenwich. The Sun's Longitude the preceding Noon is 9^s. 29°. 18′. 2″, and the following Noon is 10^s. 0°. 19′. 4″. the Difference is, 1°. 1′. 2″, or 61′. 2″, the daily Variation. Then ſay, as 24^h. is to 3^h. $10'$, ſo is 61′. 2″ to 8′. 3″. which added to 9^s. 29°. 18′. 2″, the Sun's Longitude on the preceding Noon, gives 9^s. 29°. 26′. 5″ the Sun's Longitude at the

the Time given. In like Manner any other of the following Articles is to be found by the Help of the Ephemeris.

The Sun's Longitude ſerves alſo to compute the Aberration of the fixed Stars and Planets.

The Sun's right Aſcenſion in Time is uſeful to the practical Aſtronomer in regular Obſervatories, who adjuſts his Clocks by ſidereal Time. It is alſo uſeful to him for converting apparent into ſidereal Time; as ſuppoſe that of an Eclipſe of Jupiter's Satellites, in order to know at what Time it may be expected to happen by his Clocks: For this Purpoſe, the Sun's right Aſcenſion at the preceding Noon, together with the Increaſe of right Aſcenſion from Noon, muſt be added to the apparent Time of the Phænomenon ſet down in the Ephemeris.

The Sun's right Aſcenſion in Time ſerves alſo to compute the apparent Time of a known Star's paſſing the Meridian: Thus, ſubſtract the Sun's right Aſcenſion in Time at Noon from the Star's right Aſcenſion in Time, the Remainder is the apparent Time of the Star's paſſing the Meridian nearly; from which the proportional Part of the daily Increaſe of the Sun's right Aſcenſion for this apparent Time from Noon being ſubſtracted, leaves the correct Time of the Star's paſſing the Meridian.

Hence the apparent Time may be found from an obſerved Altitude of a known fixed Star, ſuppoſe one contained Page 12 or 13 of the requiſite Tables; as will be explained hereafter.

The Sun's right Aſcenſion in Time is alſo uſeful for computing the Time of the Moon and Planets paſſing the Meridian, as will be ſhewn under their proper Articles.

The Sun's Declination is neceſſary to find the Latitude, whether at Sea or Land, from the Meridian Altitude obſerved; it is alſo requiſite for finding the Latitude from Two Altitudes obſerved with the Interval of Time meaſured by a Watch; it ſerves for computing the Sun's Azimuth, having his Altitude and the Latitude of the Place given, in order to find the Variation of the Compaſs; it is required jointly with the Latitude of the Place and the Sun's horary Angle to compute his Altitude, if neglected to be obſerved at the Time of taking the Moon's Diſtance from the Sun for finding the Longitude, being uſeful to facilitate the Calculation of the Effect of Refraction and Parallax upon the Diſtance; it is alſo neceſſary to calculate the apparent Time from an obſerved Altitude of the Sun at a Diſtance

from

from the Meridian, the Latitude being given; or to compute the Time of the Sun's Setting or Riſing; which, though a leſs accurate Method than the former of obtaining the Time, may yet be uſeful when that cannot be had. For any of theſe Purpoſes, the Sun's Declination muſt be found to the Time given nearly reduced to the Meridian of Greenwich, making Proportion according to the daily Increaſe or Decreaſe, in like Manner as was ſhewn with reſpect to the Sun's Longitude.

The Equation of Time is a Correction, which added to or ſubſtracted from the apparent Time (according to its Title at the Top of the Column) gives equated or mean Time, or that which ſhould be ſhewn by a good Clock or Watch. Apparent Time is that which takes its Beginning from the Paſſage of the Sun's Centre over the Meridian of any Place; and had the Sun no Motion in the Ecliptic, or was his Motion reduced to the Equator or in right Aſcenſion uniform, he would always return to the Meridian after equal Intervals of Time. But his apparent Motion in the Ecliptic being continually varying, and his Motion in right Aſcenſion being rendered further unequal on account of the Obliquity of the Ecliptic to the Equator, from theſe Cauſes it ariſes that the Intervals of his Return to the Meridian become unequal, and the Sun will gradually become too ſlow or too ſoon to the Meridian for an equable Motion, ſuch as that of Clocks and Watches ought to be.

This Retardation or Acceleration of the Sun's coming to the Meridian is called the Equation of Time, and is contained in the laſt Column but One of Page 2d; and when applied according to its Title to the apparent Time, or that deduced immediately from the Sun, gives the mean or equated Time, whence the Error of a Clock or Watch may be found, and, if required, it may be corrected.

If it is propoſed to convert mean Time into apparent, this is done by a contrary Proceſs, by applying the Equation of Time to the mean Time given, with its Title or Sign changed; *viz.* ſubſtracting inſtead of adding, and adding inſtead of ſubſtracting.

The Equation of Time being ſet down in the Ephemeris for the Noon at Greenwich, Proportion muſt be made according to the daily Difference, to find what it ſhould be at any given Time reduced to the ſame Meridian, as in the preceding Articles. The laſt Column of this Page, containing the daily Differences of the Equation, is deſigned for this Purpoſe.

As

As often as it may be required to make any Calculations from aſtronomical Tables, and the Time given be apparent Time; it is neceſſary firſt to apply the Equation of Time thereto to convert it into mean Time, the Tables being diſpoſed according to mean Motions. Thus the Articles contained in the Ephemeris anſwering to Noon were computed to 0^h. increaſed, or 24 Hours diminiſhed, by the Equation of Time: And the Moon's Places ſet down for Midnight were computed to 12^h. increaſed or diminiſhed by the Equation of Time.

What has been ſhewn concerning the Equation of Time chiefly reſpects the Aſtronomer, the Mariner having nothing to do with it in computing his Longitude from the Moon's Diſtances from the Sun and Stars obſerved at Sea with the Help of the Ephemeris, all the Calculations thereof being adapted to apparent Time, the ſame which he will obtain by the Altitudes of the Sun or Stars in the Manner hereafter preſcribed.

But if Watches made upon Mr. John Harriſon's or other equivalent Principles ſhould be brought into Uſe at Sea, the apparent Time deduced from an Altitude of the Sun muſt be corrected by the Equation of Time, and the mean Time found compared with that ſhewn by the Watch, the Difference will be the Longitude in Time from the Meridian by which the Watch was ſet; as near as the Going of the Watch can be depended upon.

The Equation of Time is computed in the Manner explained in my Remarks upon that Subject, in the Philoſ. Tranſact. Vol. liv. P. 342 for the Year 1764; namely, by taking the Difference of the Sun's true right Aſcenſion, and his mean Longitude corrected by the Equation of the Equinoxes in right Aſcenſion, and turning it into Time at the Rate of $1'$. to $15'$. *&c.* The Equation of Time will be additive or ſubſtractive as the Sun's true right Aſcenſion is greater or leſs than his mean Longitude.

The Semidiameter of the Sun, Page 3d, is neceſſary to reduce the obſerved Altitude of his upper or lower Limb to that of the Centre; alſo to reduce the obſerved Diſtance of the Moon's neareſt Limb from the Sun's neareſt Limb to the Diſtance of the Centres. It is alſo uſeful to Aſtronomers to verify or aſcertain the Exactneſs of the Scale of their Micrometers, by Compariſon with the Meaſure of the Sun's horizontal Diameter. This Practice is particularly uſeful in ſolar Eclipſes,

Eclipſes, when the Diſtance of the Cuſps or the Verſe Sine of the uneclipſed Part has been meaſured with the Micrometer. The Semidiameters of the Sun in Mayer's Tables, on which all the Calculations reſpecting the Sun and Moon are made, ſuppoſe the Semidiameter at the mean Diſtance to be 16′. 2″, 8. which Mr. Mayer ſays he deduced from above 130 Obſervations taken with his Six Feet mural Quadrant, which ſeemed to him not ill adapted to the Purpoſe. It may not be amiſs to take this Opportunity to remark, that the Quadrant here mentioned was given to the Univerſity of Gottingen by his late Majeſty, and was made by that ingenious Artiſt the late Mr. John Bird after the Model of the Eight Feet mural Arch, which he finiſhed for the Royal Obſervatory at Greenwich, and put up there in the Year 1750. Mr. Mayer made his Obſervations with his Six Fee tmural Arch, from the Year 1756, to the Time of his Deceaſe; with it he ſettled the mean Obliquity of the Ecliptic to the Beginning of the Year 1756, at 23°. 28′. 16″ which Dr. Bradley ſettled by his Obſervations made in the Years 1750 and 1751, at 23°. 28′. 18″. The Difference is agreeable to what ought to ariſe from the gradual Diminution of the Obliquity of the Ecliptic at the Rate of about ½ a Second in a Year. The ſame Inſtrument he alſo uſed in ſettling the Elements of his ſolar Tables; and it is moſt probable that with the ſame he ſettled his Table of Refractions at the End of his ſolar Tables; the Agreement of this Table with Dr. Bradley's, ſee Page 2d of requiſite Tables (being both ſuited to the ſame Temperature of the Air) is ſo great, that they ſeem rather like One and the ſame than Two different Tables,

The Time of the Sun's Sediameter paſſing the Meridian, ſerves to reduce an Obſervation of a Tranſit of the preceding or ſubſequent Limb over the Meridian to that of the Centre, when only One was obſerved. It ſignifies a Portion of apparent Time, or even mean Time, the Difference being abſolutely inſenſible upon ſo ſmall an Interval. It is found thus: Increaſe the Sun's Semidiameter in the Ratio of the Coſine of his Declination to the Radius, to find his Semidiameter in right Aſcenſion, which turned into Time at the Rate of 1′. to 15′. and 1″. to 15″. gives the Time required. The Sun's Semidiameter in right Aſcenſion is readily found by adding the Log. Coſine of his Declination to the logiſtic Logarithm of his Semidiameter, the Sum is the logiſtic Logarithm of his Semidiameter in right Aſcenſion; which divided by 15 gives the Time of his Semidiameter

meter paſſing the Meridian. If the Clock by which the Obſervation is made be regulated according to the ſiderial Time, this Quantity muſt be increaſed in the Ratio of 365 to 366, if great Preciſion is required.

From the Time of the Sun's Semidiameter paſſing the Meridian may be alſo found the Time of its paſſing the horizontal or vertical Wire of a Quadrant or Sextant, which on ſome Occaſions may have its Uſe.—The hourly Motion of the Sun is uſeful in computing ſolar and lunar Eclipſes; alſo in correcting the aſſumed Longitude of the Ship, in order to find the Time from an Obſervation of the Diſtance of the Moon from the Sun, independent of the Diſtances contained in the Nautical Ephemeris; See Britiſh Mariner's Guide, Page 49, and Table at the End of the ſame, Page 25, which is alſo copied at Page 14 of requiſite Tables. The Logarithm of the Sun's Diſtance is uſeful in the Calculation of the Places of the Planets and Comets. The Place of the Moon's Node ſignifies its mean Longitude, and is neceſſary for finding the Equation of the equinoctial Points both in Longitude and right Aſcenſion, the Equation of the Obliquity of the Ecliptic, and the Deviations of the fixed Stars in right Aſcenſion and Declination.

The Eclipſes of Jupiter's Satellites are well known to afford the readieſt, and for general Practice the beſt Method of ſettling the Longitudes of Places at Land; and it is by their Means principally that Geography has been ſo much reformed within a Century paſt, and the Poſition of the moſt diſtant Places determined to equal Accuracy with the neareſt. It was hoped that ſome means Might be found of uſing proper Teleſcopes on Shipboard to obſerve theſe Eclipſes; and could this be effected, it would be of great Service in aſcertaining the Longitude of a Ship from time to time. In my Voyage to Barbadoes under the Direction of the Commiſſioners of Longitude, I made a full Trial of the late Mr. Irwin's Marine Chair propoſed for this Purpoſe, but found it totally impracticable to derive any Advantage from the Uſe of it; and, conſidering the great Power requiſite in a Teleſcope for making theſe Obſervations well, and the Violence as well as Irregularities of the Motion of a Ship, I am afraid the complete Management of a Teleſcope on Shipboard will always remain among the Deſiderata. However, I would not be underſtood to mean to diſcourage any Attempt founded upon good Principles to get over this Difficulty.

The Teleſcopes proper for obſerving the Eclipſes of Jupiter's Satellites, are common refracting Teleſcopes, from 15 to 20 Feet, reflecting Teleſcopes of 18 Inches or Two Feet focal Length, and Teleſcopes of Mr. Dollond's Conſtruction with Two Object Glaſſes from Five to 10 Feet; or, which are ſtill more convenient, thoſe of 46 Inches focal Length, conſtructed with Three Object Glaſſes, which are as manageable as reflecting Teleſcopes, and perform as much as thoſe which he makes of 10 Feet with Two Object Glaſſes.

The Eclipſes of Jupiter's Satellites are obſerved by Aſtronomers at Land, as well in order to provide Materials for improving the Theories and Tables of their Motions, as for the ſake of Compariſon with the correſponding Obſervations which may be made by Perſons in different Parts of the Globe, whereby the Longitude of ſuch Places will be accurately aſcertained. It is indeed to be lamented that Perſons who viſit diſtant Countries are not more diligent to multiply Obſervations of this Kind, for want of which, the Obſervations made by Aſtronomers in eſtabliſhed Obſervatories loſe Half their Uſe, and the Improvement of Geography ſeems to be at a Stand. But it is to be hoped that an Emulation will ſpring up among thoſe who may have Opportunities of rendering ſo uſeful a Service to the Public, to incite them to watch diligently for the Occaſions of obſerving theſe Eclipſes carefully, particularly of the Firſt and Second, which are moſt exact for the Purpoſe. The Eclipſes carefully calculated and ſet down in the Ephemeris, will ſerve to advertiſe them and Obſervers in general of the Times when they ſhould attend to theſe Obſervations. The Perſon who ſhall be under any Meridian different from Greenwich, muſt turn his Difference of Longitude into Time: See Table Page 6, 7, and 8, and add it to or ſubſtract it from the Time of the Eclipſe ſet down in the Ephemeris, according as he is to the Eaſt or Weſt of Greenwich, to find the apparent Time at which the Eclipſe will happen at his Meridian, nearly. He muſt further take care to regulate his Watch or Clock by apparent Time, or at leaſt to know the Difference, as well in order to apprize him of the Time to look out for the Eclipſe, as for aſcertaining the apparent Time exactly at which he ſhall obſerve it. Equal Altitudes of the Sun or Stars taken with an aſtronomical Quadrant afford the beſt Means of regulating Clocks and Watches for occaſional Obſervations; or they may be taken with a Hadley's Quadrant,

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by Reflection from a Baſon of Water or Quickſilver, or from the Horizon of the Sea, if the Obſerver has an open Proſpect, and is not elevated above 5 or 600 Feet above the Level of the Sea. But, if Opportunity does not admit of taking equal Altitudes, the Time may be determined from One Altitude taken in any of the Methods above-mentioned, at leaſt Two or Three Points of the Compaſs diſtant from the Meridian, but the nearer to the Eaſt or Weſt the better, the Latitude of the Place being known, or being found by Obſervations of the Meridian Altitude of the Sun or Stars made on Purpoſe. It will be better to take ſeveral Altitudes in order to take a Mean of the Reſults for greater Certainty. And if one Star be obſerved to the Eaſt and the other to the Weſt of the Meridian, the Time will be determined with rather more Certainty. The Manner of computing the apparent Time from the Altitude of the Sun or a Star will be ſhewn when we come to treat of the Method of finding the Longitude by the Obſervations of the Diſtance of the Moon from the Sun and Stars by the Help of the Ephemeris.

The Obſerver being in a Place whoſe Longitude is well known, ſhould be ſettled at his Teleſcope Three Minutes before the expected Time of an Immerſion of the firſt Satellite; Six or Eight Minutes before that of the ſecond and third Satellites; and a Quarter of an Hour or more before that of the fourth Satellite; chiefly on account of the Uncertainty of their Theories; but, if the Longitude of the Place is very uncertain, he muſt begin to look out for the Eclipſe proportionably ſooner: Thus, if the Longitude of the Place is uncertain to 3 Degrees, anſwering to 12 Minutes of Time, he ought to fix himſelf to his Teleſcope 12 Minutes ſooner than is mentioned above. Nevertheleſs, when he has obſerved One Eclipſe of any Satellite, and thereby found the Error of the Tables, he may allow the ſame Correction to the Calculations of the Ephemeris for ſeveral Months, which will advertiſe him very nearly of the Time of expecting the Eclipſes of the ſame Satellite, and diſpenſe with his attending ſo long.

The Immerſions ſignify the Inſtant of the Diſappearance of the Satellite by entering into the Shadow of Jupiter; and the Emerſions ſignify the firſt Inſtant of its Appearance at coming out of the ſame. They generally happen when the Satellite is at ſome Diſtance from the Body of Jupiter, except near the Oppoſition of Jupiter to the Sun, when the Satellite approaches nearer to his Body. Before the Oppoſition of

Jupiter to the Sun the Immerſions and Emerſions happen on the Weſt Side of Jupiter, and after the Oppoſition on the Eaſt Side; but if an aſtronomical Teleſcope be uſed, which reverſes Objects, the Appearances will be directly the contrary. Before the Oppoſition, the Immerſions only of the firſt Satellite are viſible; and after the Oppoſition, the Emerſions only. The ſame is generally the Caſe with reſpect to the ſecond Satellite; both the Phænomena of the ſame Eclipſe are frequently obſervable in the Two outer Satellites. The Immerſions and Emerſions marked with an Aſteriſk in the Ephemeris are thoſe viſible at Greenwich.

To know if an Eclipſe will be viſible in any Place, find if Jupiter is 8°, or 10° above the Horizon of the Place, and the Sun as much below it. This may be done near enough by a celeſtial Globe: Otherwiſe, the Time of the Sun's Riſing and Setting may be found for any Latitude by a Table of ſemidiurnal Arcs, contained in the popular Book called the Mariner's Compaſs Rectified, and many other Books; the Time of Jupiter's Riſing and Setting may alſo be found from the Time of his paſſing the Meridian and Declination ſet down in the Ephemeris, with the Help of the ſame Table of ſemidiurnal Arcs; adding or ſubſtracting the ſemidiurnal Arc anſwering to the ſame Declination of the Sun: Remembering always that if Jupiter's Declination and the Latitude of the Place are of the ſame Denomination, the ſemidiurnal Arc will be more than Six Hours, and if they are of contrary Denominations, will be leſs than Six Hours.

The Immerſion or Emerſion of any Satellite being carefully obſerved in any Place according to apparent Time, the Longitude from Greenwich is found immediately by taking the Difference of the Obſervation from the correſponding Time ſhewn in the Ephemeris, which muſt be turned into Degrees, *&c.* by Table Page 6, 7, and 8; and will be Eaſt or Weſt of Greenwich, as the Time obſerved is more or leſs than that of the Ephemeris.

Example; Suppoſe an Emerſion of the firſt Satellite ſhould be obſerved at the Cape of Good Hope, May 9, 1767, at $10^h. 46'. 45''$ apparent Time: The Time by the Ephemeris being $9^h. 33'. 12''$, the Difference is $1^h. 13'. 33''$, whence by Table Page, 6, 7, and 8, the Longitude of the Cape ſhould be $18°. 23'. 15''$, Eaſt of Greenwich, becauſe the Time ſuppoſed to be obſerved at the Cape is more than that of the Ephemeris.

It is to be obſerved that a correſpondent Obſervation of an Eclipſe of a Satellite of Jupiter, made under a well-known Meridian, is to be preferred to the Calculations of the Ephemeris for comparing with an Obſervation made in a Meridian whoſe Longitude is required; but if no correſponding Obſervation can be obtained, as is frequently the Caſe, it will be beſt to find what Correction the Calculations of the Ephemeris require by the neareſt Obſervations to the given Time that can be obtained; which Correction, applied to the Calculation of the given Eclipſe in the Ephemeris, renders it almoſt equivalent to an actual Obſervation.

The Longitudes and Latitudes of the Planets, Page 4, ſerve to know where to look for them in the Heavens, and when their Places may be conveniently ſettled by comparing them with fixed Stars by the Help of a Micrometer in a Teleſcope. They alſo ſhew when they are in the moſt important Points of their Orbits, where it is moſt material to obſerve them. They alſo ſerve to enable Perſons leſs ſkilled to diſtinguiſh them from the fixed Stars. Their Declinations and apparent Time of paſſing the Meridian are particularly uſeful to Aſtronomers who are furniſhed with Quadrants and Tranſit Inſtruments well fixed in the Meridian, in ſetting their Inſtruments for obſerving their right Aſcenſions and Declinations.

The apparent Time of a Planet's paſſing the Meridian may be computed thus; the Planet's right Aſcenſion being calculated from its Longitude and Latitude, and turned into Time, ſubſtract the Sun's right Aſcenſion at Noon in Time from it, to find the Time of the Planet's paſſing the Meridian nearly, which call T; take the Difference of the ☉ and Planet's daily Variations in right Aſcenſion in Time, if the Planet is progreſſive in right Aſcenſion, or the Sum if it is retrograde, which call X; then ſay, by the Rule of Proportion;

As $24^{h.} \mp X : T :: X : e$ and $T \pm e$ will be the correct Time of the Planet's paſſing the Meridian. The upper Signs are to be uſed both to X and e if the Planet's progreſſive Motion in right Aſcenſion be greater than that of the Sun; in any other Caſe the lower Signs are to be made uſe of.

But perhaps it may be found more readily by continual Approximation as follows: Take the proportional Part of the Difference or Sum of the ☉ and Planet's daily Motion in right Aſcenſion, anſwering to the Time of the Planet's paſſing the Meridian, found nearly, in Proportion to $24^{h.}$ and take a further like proportional Part of this proportional Part; and again

again of this laſt, and ſo on as far as is neceſſary. The Sum of all theſe proportional Parts added to the Time of the Planet's paſſing the Meridian found nearly, if the Planet's progreſſive Motion in right Aſcenſion is greater than that of the Sun, otherwiſe ſubſtracted, gives the apparent Time of the Planet's paſſing the Meridian.

Example: Let it be required to find the Time of the Moon's paſſing the Meridian, July 1, 1767.

The Sun's right Aſcenſion in Time July 1ſt is, $6^h.40'.25''$. and July 2d, $6^h.44'.33''$ by the Ephemeris. Therefore his daily Motion in right Aſcenſion is $4'.8''$. The Moon's right Aſcenſion July 1ſt at Noon by the Ephemeris, is $159°.2'$ anſwering to $10^h.36'.8''$ of Time, and July 2d is, $169°.39'$, anſwering to $11^h.18'.36''$. The Difference is, $42'.28''$ of Time, from which $4'.8''$ being ſubſtracted, leaves $38'.20''$. Subſtract $6^h.40'.25''$, the Sun's right Aſcenſion July 1ſt at Noon, from $10^h.36'.8''$, the Moon's right Aſcenſion the ſame Noon, the Remainder $3^h.55'.43''$, is the Approximate Time of the Moon's paſſing the Meridian. The proportional Part of $38'.20''$ anſwering to this, is $6'.17''$, and the proportional Part of $6'.17''$ is $9''$; therefore $6'.17''$ and $9''$ or $6'.26''$ added to $3^h.55'.43''$ give $4^h.2'.9''$, the apparent Time of the Moon's paſſing the Meridian. In the Ephemeris it is $4^h.2'$. It may alſo be computed by taking the Difference of the Moon's right Aſcenſion at Noon and Midnight, but then Half the Sun's daily Variation in right Aſcenſion muſt be made uſe of, and Proportion muſt be made for 12 inſtead of 24 Hours: And if the Moon paſſed the Meridian after Midnight, the Sun's right Aſcenſion at Midnight muſt be uſed, which is a Mean between his right Aſcenſions on the preceding and ſubſequent Noon. For the Planets, it will be ſufficient to take the firſt proportional Part only.

The Days of the Oppoſitions, Quadratures, &c. of the Planets to the Sun, are Times at which they ought to be obſerved in fixed Obſervatories, for ſettling the Elements of their Orbits by a Series of ſeveral Years Obſervations.

The 5th, 6th, 7th, 8th, 9th, 10th, and 11th Pages of each Month contain the Moon's Place, and all the Circumſtances relating to her Motions, and her Diſtances from the Sun and proper Stars, from which her Diſtance ſhould be obſerved for finding the Longitude at Sea. The Longitudes, Latitudes, and Declinations of the Moon, and Time of her paſſing the Meridian, afford the like Uſes with the ſame

Circumſtances

Circumſtances of the Planetary Motions, and many more beſides. For the ſake of greater Preciſion, the Moon's Longitude, Latitude, Right Aſcenſion, Declination, Semidiameter, horizontal Parallax, with its logiſtic or proportional Logarithm, are computed twice a Day, to Noon and Midnight, and may readily be inferred to any intermediate Time with the greateſt Exactneſs.

Example: Let it be required to find the Moon's Longitude and Latitude, &c. July 16, 1767, at $16^h. 22'. 16''$. Firſt to find the Longitude. The Moon's Longitude, July 16, at 12^h. is $0^s. 6°. 40'. 25''$. and July 17 at Noon, $0^s. 13°. 47'. 48''$. the Difference $7°. 7'. 23''$ is the Moon's Motion in 12 Hours; ſay then, by the Rule of Proportion,

As 12^h. is to $4^h. 22'. 16''$ (the Exceſs of $16^h. 22'. 16''$ above 12^h.) ſo is $7°. 7'. 23''$ to $2°. 35'. 41''$, which added to $0^s. 6°. 40'. 25''$, the Moon's Longitude at 12^h. gives $0^s. 9°. 16'. 6''$, the Moon's Longitude nearly; but this muſt be corrected on account of the Moon's unequal Motion in 12 Hours, by Page 11 of Requiſite Tables; for this Purpoſe take out of the Ephemeris the Two Longitudes of the Moon next preceding the given Time, and the Longitudes immediately following it, and ſet them down in Order one after another, as follows.

		1ſt Diff.	2d Diff.
	s ° ′ ″	° ′ ″	′ ″
July 16, Noon	11. 29. 29. 34		
		7. 10. 51	
Midnight	0. 6. 40. 25		3. 28
		7. 7. 23	
17, Noon	0. 13. 47. 48		3. 44
		7. 3. 39	
Midnight	0. 20. 51. 27		

Take their Differences, $7°. 10'. 51''$, $7°. 7'. 23''$, $7°. 3'. 39''$, take the Differences of theſe Differences, or the 2d Differences, $3'. 28''$; $3'. 44''$. and take their Mean which is $3'. 36''$. Now look for the Correction in Page 11 of Requiſite Tables anſwering to $4^h. 22'$ after Midnight, found on the Side, and $3'. 36''$ at Top, $21''$ will be found under $3'$. and $28''$. under $4'$. the Difference is $7''$. when $36''$ will require $4''$, and the Correction ſought is $21'' + 4'' = 25''$. which, according to the Remark at the Bottom of the Table, muſt be added (becauſe the Motion in 12 Hours or firſt Differences are decreaſing to $0^s. 9°. 16'. 6''$, the Moon's Longitude found by even Proportion;

Proportion; whence the Moon's true Longitude is 0ˢ. 9°. 16′. 31″, and is as correct as the Longitudes from which it is deduced.

N. B. If the first Differences of the Four Longitudes of the Moon taken out first increase and then decrease, or, vice versâ, first decrease and then increase, take Half the Difference of the Two second Differences for the Mean second Difference, with which take the Correction from Page 11, and add or subtract it as the First first Difference is greater or less than the Third first Difference.

To find the Moon's Latitude. Take out of the Ephemeris the Two Latitudes preceding and Two following the given Time, and set them down in Order, and take their first and second Differences, and the Mean of the Two second Differences; find the proportional Part of the Middle first Difference answering to the Hours and Minutes, &c. of the given Time after Noon or Midnight; which correct in the following Manner: Entering Table Page 11 with the Hour from Noon or Midnight on the Side, and the Mean second Difference at Top, take out the corresponding Number of Seconds, which added to or subtracted from the proportional Part found above, according as the Motion in 12 Hours or first Differences are decreasing or increasing; or, more generally, according as First first Difference is greater or less than Third first Difference, gives the proportional Part corrected; which now added to or substracted from the Moon's Latitude at the preceding Noon or Midnight, as the Latitude in these 12 Hours is increasing or decreasing, gives the Moon's Latitude correct.

Example: The Moon's Latitude is required, July 16, 16ʰ. 22′. 16″.

	☽'s Lat. by the Ephem.	1st Dif.	2d Dif.	Mean of 2d Dif.
	° ′ ″	′ ″	′ ″	′ ″
July 16. Noon	4. 31. 10 N.			
		18. 26		
Midnight	4. 49. 36		4. 36	
		13. 50		4. 40
17 Noon	5. 3. 26		4. 44	
		9. 6		
Midnight	5. 12. 32			

The Moon's Latitude July 16 at Midnight being 4°. 49′ 36″. N. and the Motion in the next 12 Hours being 13′. 50″. say by Proportion,

As

As 12^h. is to 4^h. 22′. 16″, ſo is 13′. 50″, to 5′. 2″; but this muſt be corrected by adding 33″. the Correction from Page 11, anſwering to the Hour 4^h. 22′, and the Mean ſecond Difference 4′. 40″, becauſe the firſt Differences are decreaſing, or rather becauſe the firſt of them 18′. 26″, is greater than the laſt of them 9′. 6″, therefore the proportional Part corrected is 5′. 2″ + 33″ = 5′. 35″, which added to 4°. 49′. 36″, gives 4°. 55′. 11″ N. the Moon's Latitude correct.

Remarks on ſome Circumſtances neceſſary to be attended to, in order to obtain and apply the Correction of ſecond Differences rightly in computing the Moon's Latitude.

I. If the Moon's Latitude taken out of the Ephemeris for Noon and Midnight changes its Denomination from North to South or from South to North, the Sum of the Two Latitudes of contrary Denominations, where the Change happens, is to be accounted the firſt Difference in that Place.

II. If the Three firſt Differences firſt increaſe and then decreaſe, or vice verſâ, firſt decreaſe and then increaſe, Half the Difference of the Two ſecond Differences is to be taken for the Mean ſecond Difference.

III. If the Series of Four Latitudes taken out ſhould firſt increaſe and then decreaſe about the Moon's greateſt Latitudes, take the Sum of the Two firſt Differences ſtanding on each Side of the greateſt Latitude for the ſecond Difference in that Place; correct the Moon's Latitude at Noon or Midnight by the ſimple proportional Part firſt found; and to the Latitude ſo corrected, add always in this Caſe the Correction from Table Page 11, anſwering to the Mean of the Two ſecond Differences.

Before I quit this Subject of Interpolation by ſecond Differences, I ſhall point out another Method, by which the ſame End may be obtained more readily, and with fewer Rules, by thoſe who are well acquainted with algebraic Subſtraction and Addition, and the Manner of applying the Signs in thoſe Operations. Subſtract each Latitude from the following for the firſt Differences, to which prefix the Sign — if the Latitudes decreaſe; and ſubſtract each firſt Difference, thus found, from the following one of the ſame Order for the ſecond Differences. Half the Sum of the Two ſecond Differences ſtanding on each Side of the Interval to be interpolated, is to be accounted the Mean ſecond Difference; the Correction correſponding to it by Table Page 11, is to be applied always with the contrary Sign.

Theſe Operations are to be performed, and the Signs to be applied as in algebraic Subſtraction and Addition. Note further, if the Four given Latitudes change their Denomination, call the ſecond Latitude +, and thoſe of a contrary Denomination —.

The Moon's Declination may be found at any Hour in the ſame Manner as her Latitude; but as the Correction ariſing from ſecond Differences will never exceed $2\frac{1}{2}$, this may be neglected on moſt Occaſions; but if any one is deſirous to obtain the Declination true to a Minute, the Correction is eaſily applied, as ſhewn above.

The other Articles of Page 7, and 8, *viz.* the Moon's right Aſcenſion, her Semidiameter, horizontal Parallax, with its Logarithm, and the Diſtances contained in the Four laſt Pages of the Month, may be all found correctly by even Proportion, without requiring any Allowance on Account of ſecond Differences. The proportional Part of the Moon's Longitude, *&c.* for any Hour, may be found very readily by the Help of the Table of proportional Logarithms at the End of the requiſite Tables; for which conſult the Explanation of thoſe Tables.

The Moon's Longitude and Latitude are uſed in computing her Diſtances from the Sun and Stars contained in the Four laſt Pages of the Month, as well as in the Appulſes to Stars pointed out in Page 1, and, jointly with her Parallax and Semidiameter, are neceſſary for computing the Eclipſes of the Sun and Moon, and the Occultations of fixed Stars and Planets by the Moon. They alſo facilitate the Calculation of the Longitude of any Place from an Eclipſe of the Sun, or an Occultation of a Star or Planet by the Moon obſerved: Or, if the Meridian be well known, the Parallax and Semidiameter ſerve to deduce the Moon's true Place in the Heavens from the Obſervation, which compared with that given by the Ephemeris ſhews the Error of the Tables, whatever it be at that Time. The Moon's Semidiameter and Parallax are applied in correcting almoſt all Obſervations of the Moon. The proportional Logarithms of the Moon's Parallax ſerve further to facilitate the Calculations of Parallaxes.

The Moon's right Aſcenſion and Declination are uſeful to compute her Altitude at any Time, particularly at the Obſervation of her Diſtance from the Sun or a Star, ſuppoſing it was neglected to be or could not be obſerved properly; which latter Caſe may ſometimes happen in the Night, though I think but rarely; the utmoſt Accuracy not being required for

for the Calculations of Refraction and Parallax. See Britiſh Mariner's Guide, Page 57. The Moon's Declination, with her Semidiameter and Parallax, ſerve for finding the Latitude by the Meridian Altitude of her upper or lower Limb obſerved at Sea. See Britiſh Mariner's Guide, Page 93. The Moon's right Aſcenſion and Declination ſerve alſo to compute the Time from her Altitude obſerved at the Obſervation of her Diſtance from a Star; whence the Longitude may be inferred, though no Altitude of the Sun or a Star was taken for regulating the Time. See Britiſh Mariner's Guide, Page 61.

The Diſtances of the Moon from the Sun and fixed Stars, contained in the 8th, 9th, 10th, and 11th Pages of the Month, are ſet down to every Three Hours of Apparent Time by the Meridian of Greenwich, and are deſigned to relieve the Mariner from the Neceſſity of a Calculation, which he might think prolix and troubleſome, and to enable him, when compared with the ſame Diſtances obſerved carefully at Sea, to infer his Longitude readily and with little Danger of Miſtake to a Degree of Exactneſs that may be thought ſufficient for moſt nautical Purpoſes. But uſeful and valuable as the Practice of this Method may be at preſent, it is a Remark not unworthy our Notice, that there is Room to hope, by future Improvements of the Lunar Tables, and the Introduction of a more accurate Method of conſtructing Inſtruments, it may be carried to a much higher Degree of Perfection.

The Moon's Diſtances are computed both from the Sun and proper Stars, and generally from One Object on each Side of her, to afford the Mariner a greater Number of Opportunities of Obſervation, and a Means of attaining a greater Degree of Exactneſs. The Diſtances from the Sun are computed between 40° and 120° of Diſtance. While the Moon is between the Diſtances of 20° and 40° from the Sun, her Diſtance is computed only from a Star on the contrary Side that the Sun is. When ſhe is between the Diſtances of 40° and 90° from the Sun, her Diſtance is computed both from the Sun and from a Star on the contrary Side to the Sun; when the Moon is above 90° from the Sun her Diſtance is computed from Two Stars, one on each Side of her; though ſtill her Diſtance is computed alſo from the Sun from 90° to 120°. Though the Diſtance of the Moon from the Sun or Star, well obſerved with a good Inſtrument, is ſufficient to determine the Longitude, with the Help of the

Ephemeris, always within a Degree, and generally much nearer, yet it will conduce to ſtill greater Accuracy, if the Obſerver takes the Diſtance of the Moon from Two Stars, or the Sun and a Star, or, when the Moon is between 90° and 120° Diſtance from the Sun, from the Sun and Two Stars, if he can be ſo lucky as to obtain theſe ſeveral Obſervations.

The Longitude being computed from the Obſervations made with each Star reſpectively, the Mean of the Reſults is to be taken as probably approaching neareſt to the true Longitude. In particular the Moon's Diſtance ſhould be taken from Two Stars, or the Sun and a Star on each Side of her, as often as Opportunity permits, ſince the Mean of the Reſults will probably b at leaſt as exact again as either ſeparately, I mean as far as depends on any Imperfection of the Inſtruments, and unavoidable ſmall Errors ariſing in the Uſe of them; Errors of theſe Kinds having a natural Tendency to correct each other; for that ſmall Error which ariſes from the Lunar Tables will affect the Reſult from either Star equally. But the Error of Mr. Mayer's laſt Lunar Tables as corrected by a Series of Dr. Bradley's Obſervations of 9 Years, being theſe here made uſe of, never exceeding 45″, and ſeldom amounting to 15″, the Uncertainty hence ariſing in the Determination of the Longitude can ſcarcely exceed 22 Miles, and generally will not exceed 10 Miles of Longitude.

The Diſtances ſet down in the Ephemeris, afford the Obſerver a ready Means of knowing the Star from which the Moon's Diſtance is to be obſerved; for he has nothing to do but to ſet his Quadrant to the Diſtance computed roughly from the Ephemeris, neglecting the Seconds, at the apparent Time eſtimated nearly by the Meridian of Greenwich; and direct his Sight to the Eaſt or Weſt of the Moon, according as the Diſtance at Greenwich is found in the 8th and 9th, or 10th and 11th Pages of the Month; and having found the Moon upon the little Speculum, let him give a Sweep with the Quadrant to the Right and Left, and he will find the Star he ſeeks for, if above the Horizon and the Air be clear, nearly in a Line perpendicular to the Line of the Moon's Horns or longer Axis, or, which is the ſame Thing, in the Line of the Moon's ſhorter Axis produced. The Star is always one of the brighteſt, ſo that there is little Danger of miſtaking another for it, if the preceding Directions are carefully obſerved. The Time at Greenwich is eſtimated nearly by turning the ſuppoſed Longitude from Greenwich

into

into Time, by Table Page 6. 7, and 8, and adding it to or ſubſtracting it from the apparent Time at the Ship, as its Longitude is Weſt or Eaſt of Greenwich. It will be ſufficient if the Diſtance be computed from the Ephemeris within 10′, or 20′, for ſetting the Quadrant. The principal Uſe of the Diſtances of the Moon from the Sun and fixed Stars; namely, in determining the Longitude by Compariſon with the correſponding Diſtances obſerved at Sea, will be ſhewn hereafter in its proper Order, in the Diſſertation explaining the Method of computing the Longitude at Sea by the Help of the Ephemeris.

The Diſtances contained in the Ephemeris were computed ſtrictly to Noon and Midnight, and thence interpolated for every Three Hours, according to the Method ſhewn for computing the Moon's Latitude, Page 160—162: Except that the Correction of ſecond Differences at the Middle of the Interval to be interpolated, was taken $\frac{1}{8}$ of the Mean of the Two ſecond Differences, and at the Firſt and Third Quarter of the Interval was taken $\frac{3}{4}$ of the Correction juſt found at the Middle of the Interval; inſtead of conſulting Table Page 11, which would however have given the ſame Reſult. But, at the firſt 12 Hours, when the Diſtances of the Moon from a Star begin, and the laſt 12 Hours, when the Diſtances end, there being only One ſecond Difference inſtead of Two ſecond Differences on each Side to take a Mean of, this Method fails in theſe Caſes, and therefore the following is to be ſubſtituted in its ſtead, being derived from Sir Iſaac Newton's Solution of the Problem of drawing a Curve through the Extremities of any Number of given Ordinates. Phil. Nat. Princ. Math. Page 486. Edit. ult.

From Four Diſtances at Noon and Midnight computed ſtrictly, to interpolate Three Diſtances at the 3d, 6th, and 9th Hour of the firſt or laſt Interval.

Subſtract each Diſtance from the following, for the firſt Differences, and prefix the Sign —, if the Diſtances decreaſe. Subſtract each firſt Difference thus found from the following One of the ſame Order, for the ſecond Differences: And in like Manner ſubſtract the Firſt 2d Difference from the following for the third Difference; applying the Signs as in algebraic Subſtraction. Denote the firſt or laſt firſt Difference by b, the firſt or laſt ſecond Difference by c; according as the Interpolation to be made is for the firſt or laſt 12 Hours, denote alſo the third Difference by d; and, a being put to

ſignify

ſignify the Diſtance at the Beginning of the Interval, the interpolated Diſtances will be as follows:

At 3d Hour of firſt Interval	$a + \frac{1}{4}b - \frac{3}{32}c + \frac{7}{128}d$
At 6th Hour of firſt Interval	$a + \frac{1}{2}b - \frac{1}{8}c + \frac{1}{16}d$
At 9th Hour of firſt Interval	$a + \frac{3}{4}b - \frac{3}{32}c + \frac{5}{128}d$
Or	
At 3d Hour of laſt Interval	$a + \frac{1}{4}b - \frac{3}{32}c - \frac{5}{128}d$
At 6th Hour of laſt Interval	$a + \frac{1}{2}b - \frac{1}{8}c - \frac{1}{16}d$
At 9th Hour of laſt Interval	$a + \frac{3}{4}b - \frac{3}{32}c - \frac{7}{128}d$

In adapting theſe Formulæ to Numbers, great Care muſt be taken about the right Application of the Signs. Thus if *b*, *c* or *d* is Negative, apply the Number expreſſing the Value of that Term of the Formula where it is found with a contrary Sign to that of the Formula.

Let me add in this Place, that if in filling up the firſt and laſt Intervals, a new ſecond Difference has been ſuppoſed in arithmetical Progreſſion with the Two given ones, in order to take a Mean between it and the firſt or laſt ſecond Difference, the Interpolation at the Middle of the Interval or 6th Hour will be had true, the ſame as if the above Formulæ had been uſed: But at the Interpolation of the firſt and third Quarter there will be an Error of $\frac{1}{128}$ third Difference; which will be corrected, by applying $+\frac{1}{128}d$ or third Difference, to Number found at the firſt Quarter of the Interval, and $-\frac{1}{128}d$ to that found at the third Quarter of the Interval; equally the ſame whether it be the firſt or laſt Interval.

The Configurations of Jupiter's Satellites, Page 12th and laſt, exhibit the apparent Poſitions of the Satellites with reſpect to each other, and to Jupiter at ſuch an Hour of the Evening or Night as they are moſt likely to be obſerved, and ſerve to diſtinguiſh the Satellites from one another. Jupiter is diſtinguiſhed by the Mark ⊙, and the Satellites by Points with Figures annexed, the Figure 1 ſignifying the firſt Satellite, 2 the ſecond Satellite, *&c.* When the Satellite is approaching towards Jupiter, the Figure is put between Jupiter and the Point; and when the Satellite is receding from Jupiter, the Figure is put on the other Side of the Point. The Satellites are in the ſuperior Parts of their Orbits, or furtheſt from the Earth, when they are marked to the right Hand or Weſt of Jupiter approaching him; or to the left Hand or Eaſt of Jupiter receding from him; but are in the inferior Part of their

their Orbits, or neareſt to the Earth, when they are marked to the right Hand or Weſt of Jupiter receding from him, or to the left or Eaſt of Jupiter approaching him. The Cypher o ſometimes annexed to the Figure of the Satellite towards the Margin, ſignifies that it is inviſible on the Face of Jupiter; and the black Mark ●, ſignifies that it is inviſible, being eclipſed in Jupiter's Shadow, or behind Jupiter, and eclipſed by his Body.

THE END.

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